

1-5

Acidify

Protein Coding Region

Some environments are highly alkaline, playing this card will decrease the pH and neutralise such places. Be careful if using to make fizzy drinks.

1-3

Alarm

Protein Coding Region

Kill Switch. Think quickly! As soon as you insert this PCR in to your E. coli's genome a countdown will start. You have 15 minutes until your cell terminates.

1-2

Alkaline

Protein Coding Region

Alkaline substances have a high pH. Alkalines are just as dangerous as acids, but when used properly this card could neutralise an acidic substance.

1-6

AntiFungal

Protein Coding Region

Fungal disease affects both humans and crops. This PCR will produce a protein that targets and eliminates fungi.

1-6

Aqua

Protein Coding Region

We all know that water is essential for life, but what happens when you've run out? Worry no more, this PCR will help you produce drinking water.

1-6

Bacteriacide

Protein Coding Region

Bacteria is not always the best thing for humans. This PCR will make a protein that can be used for cleaning. This could prevent sickness.

1-5

Capsize

Protein Coding Region

Kill Switch. When in an under water lab it would be nice to know if any cells were to escape, they would die. Thankfully this card does that!

1-3

Desaltifier

Protein Coding Region

Wouldn't it be great if you could drink sea water? This card may just make that possible. Play this card to remove salt from any envirnment you are in.

1-5

DeToxify

Protein Coding Region

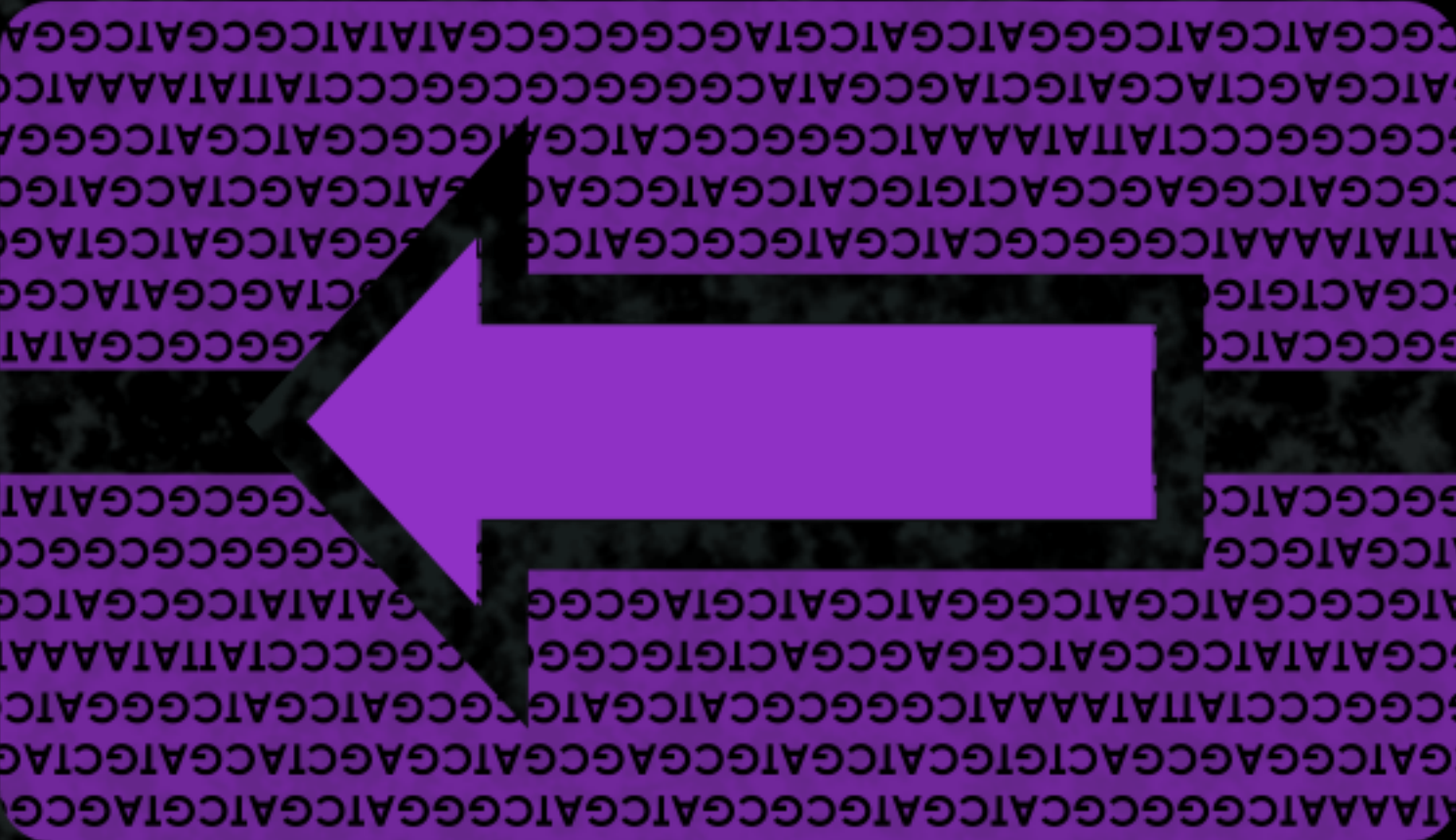
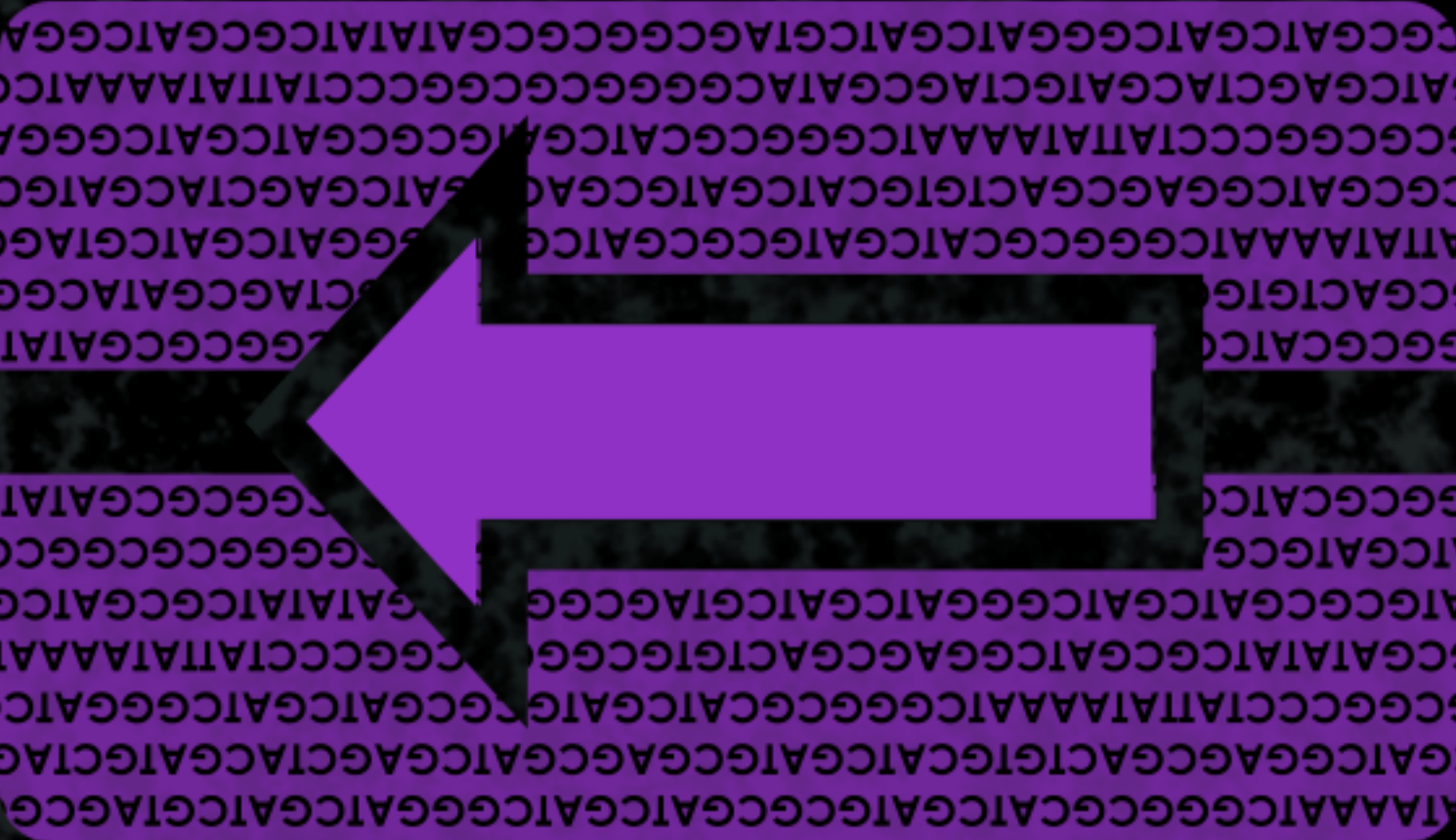
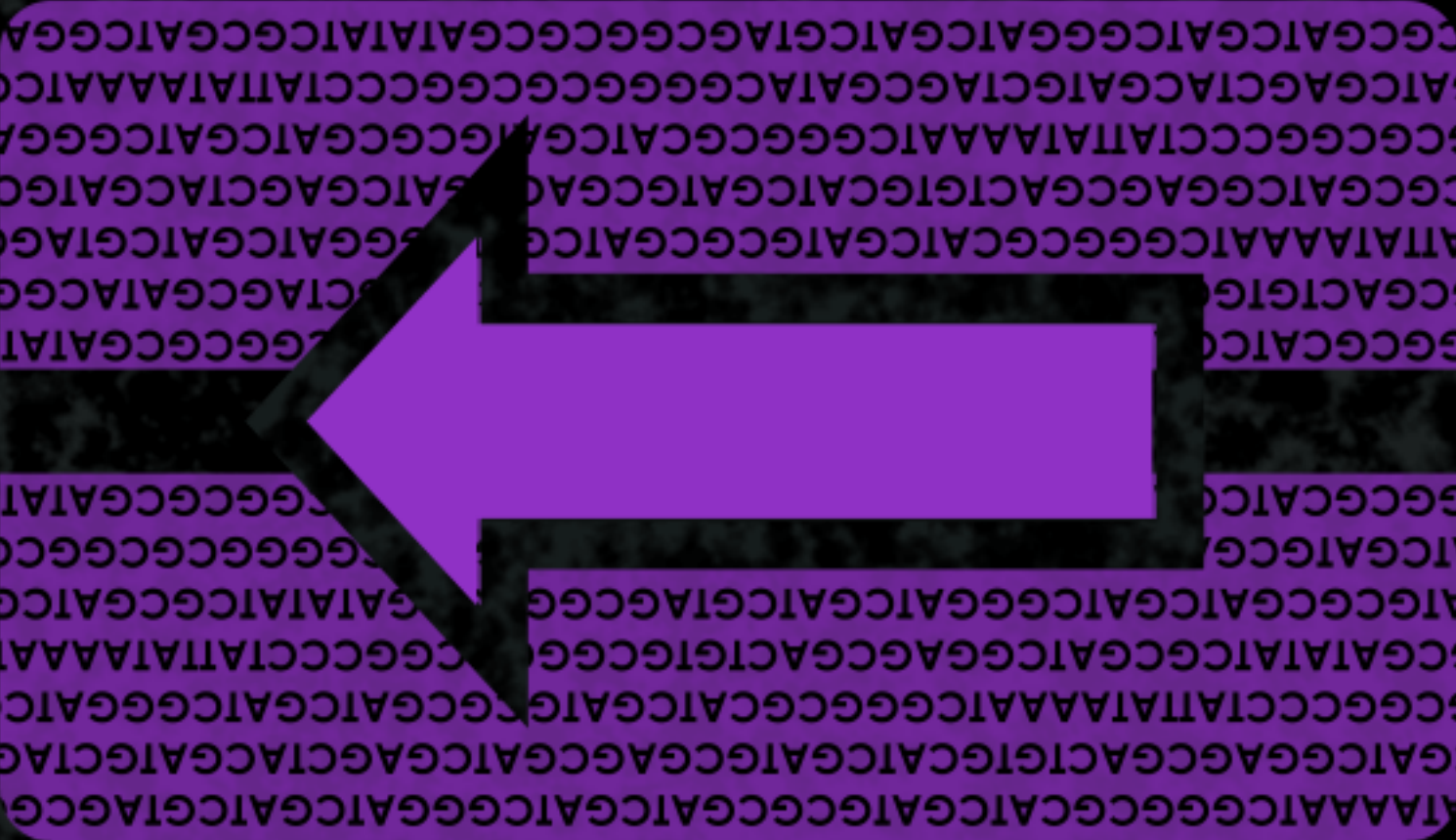
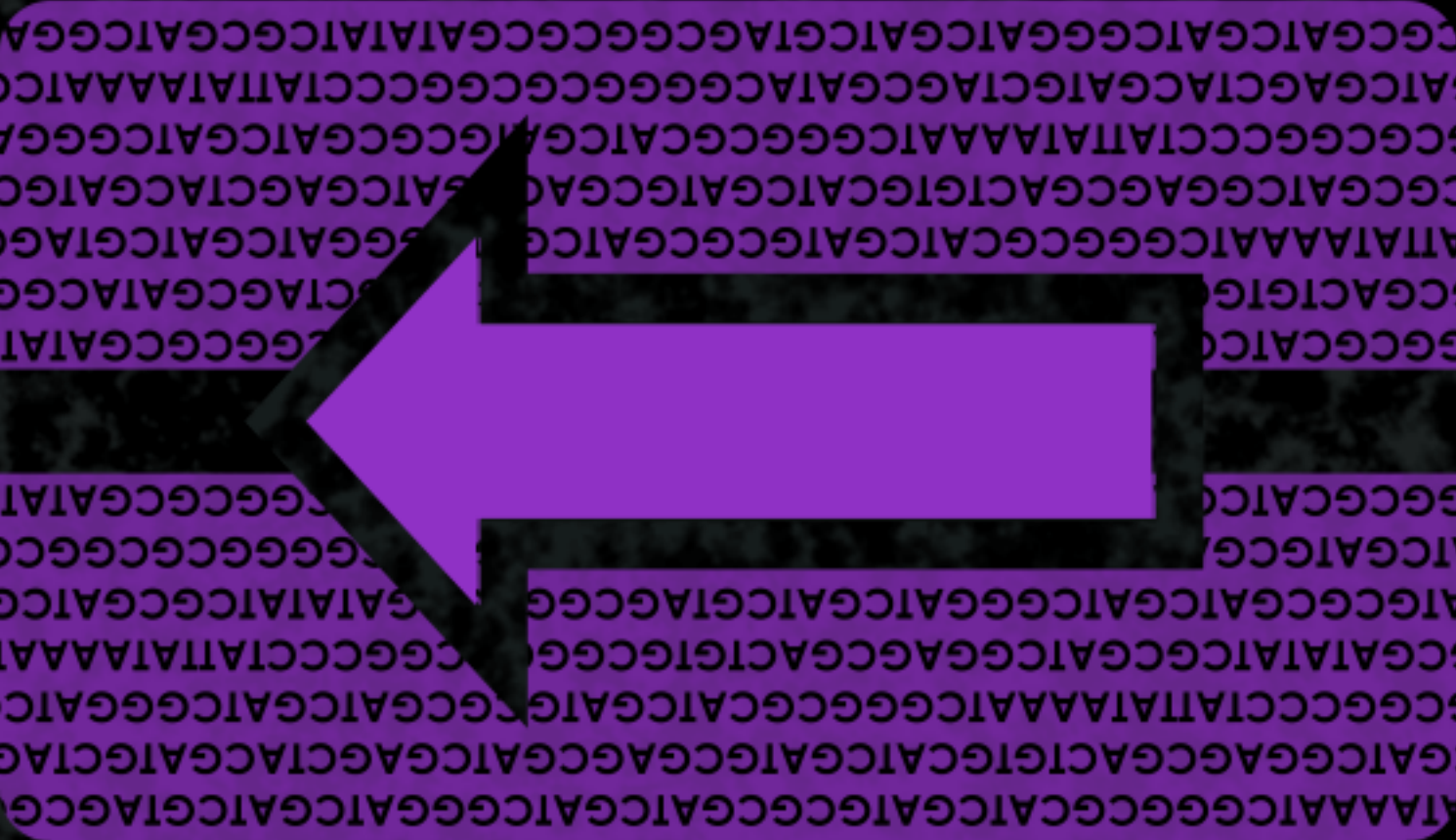
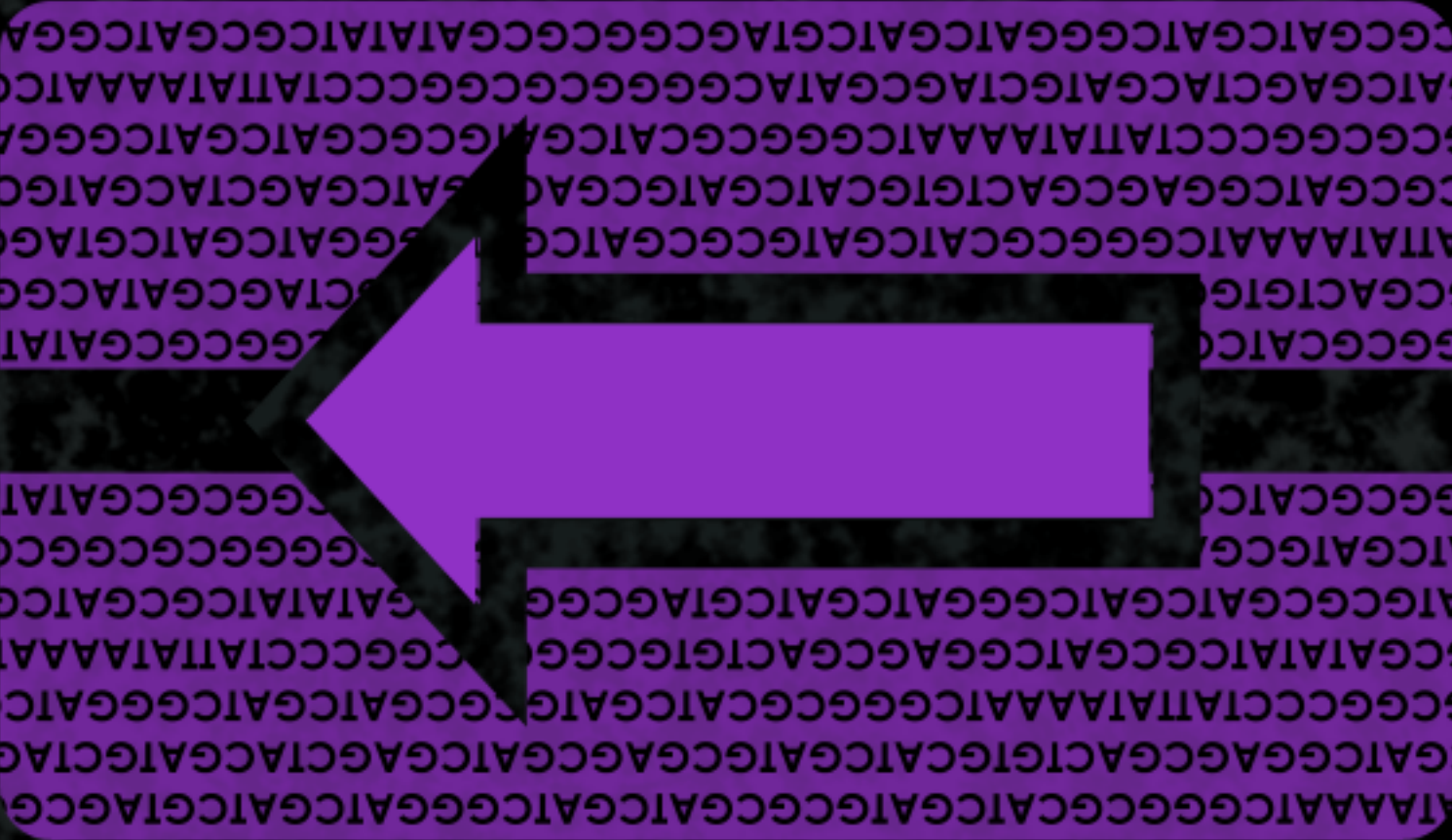
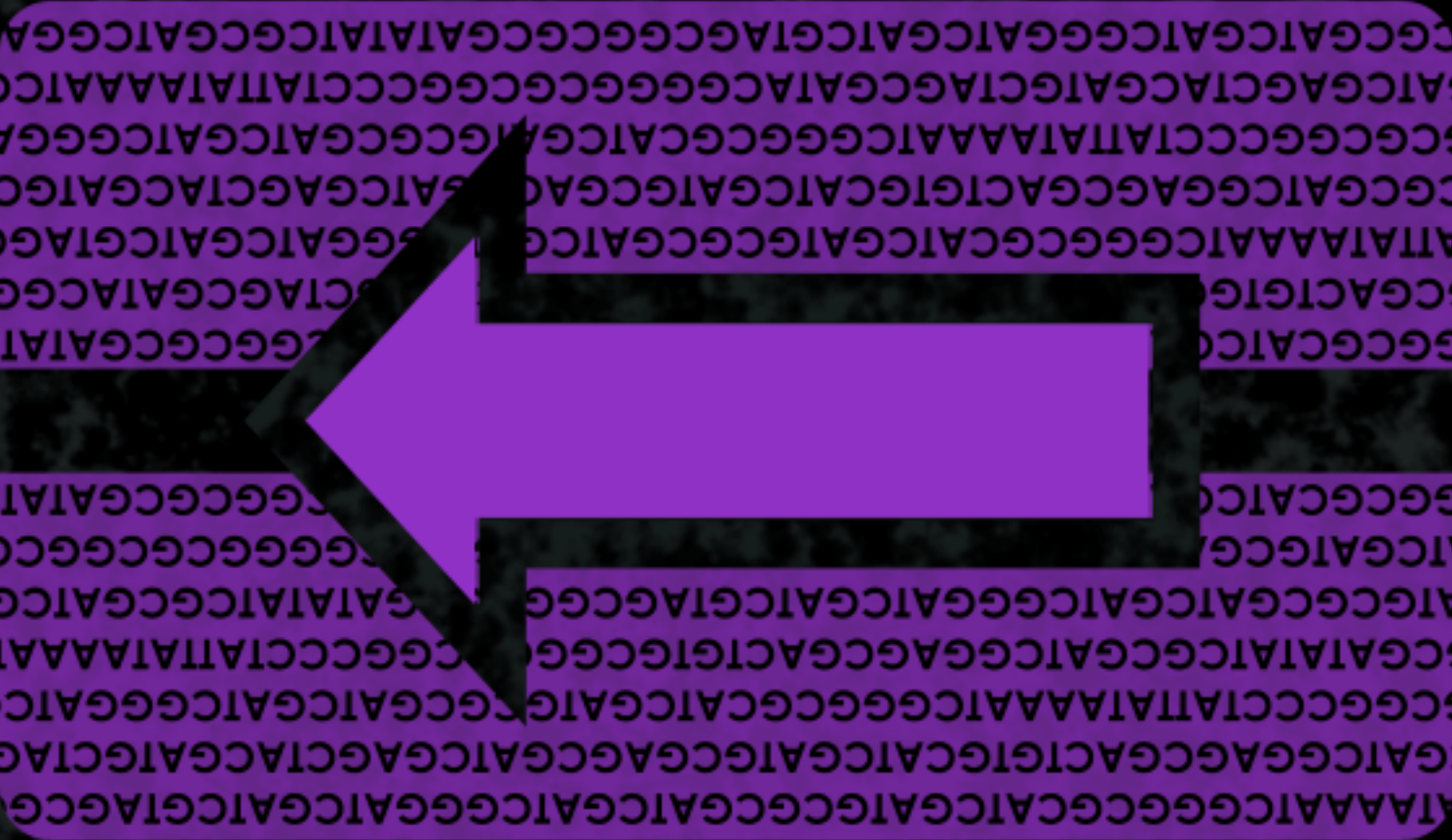
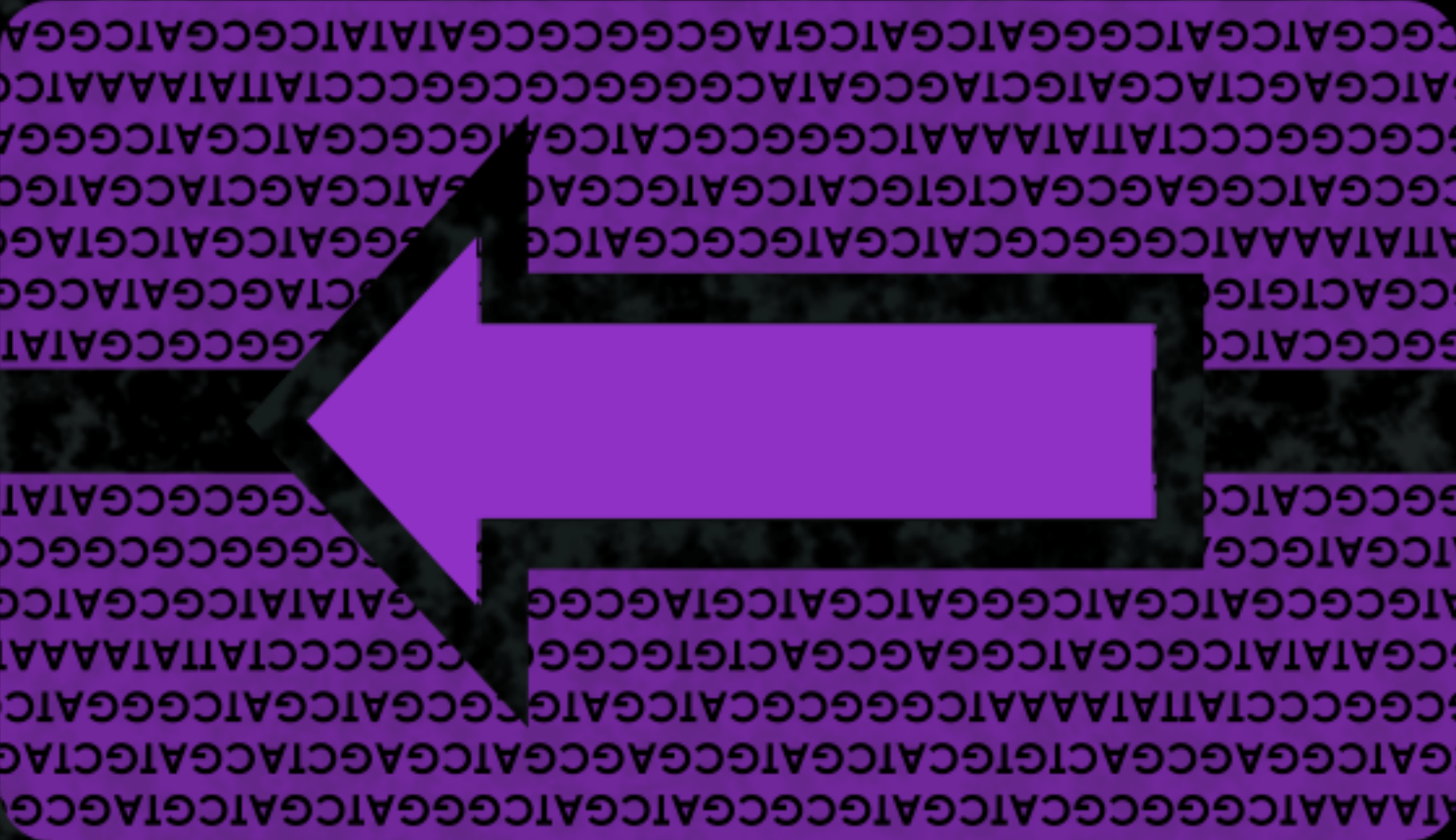
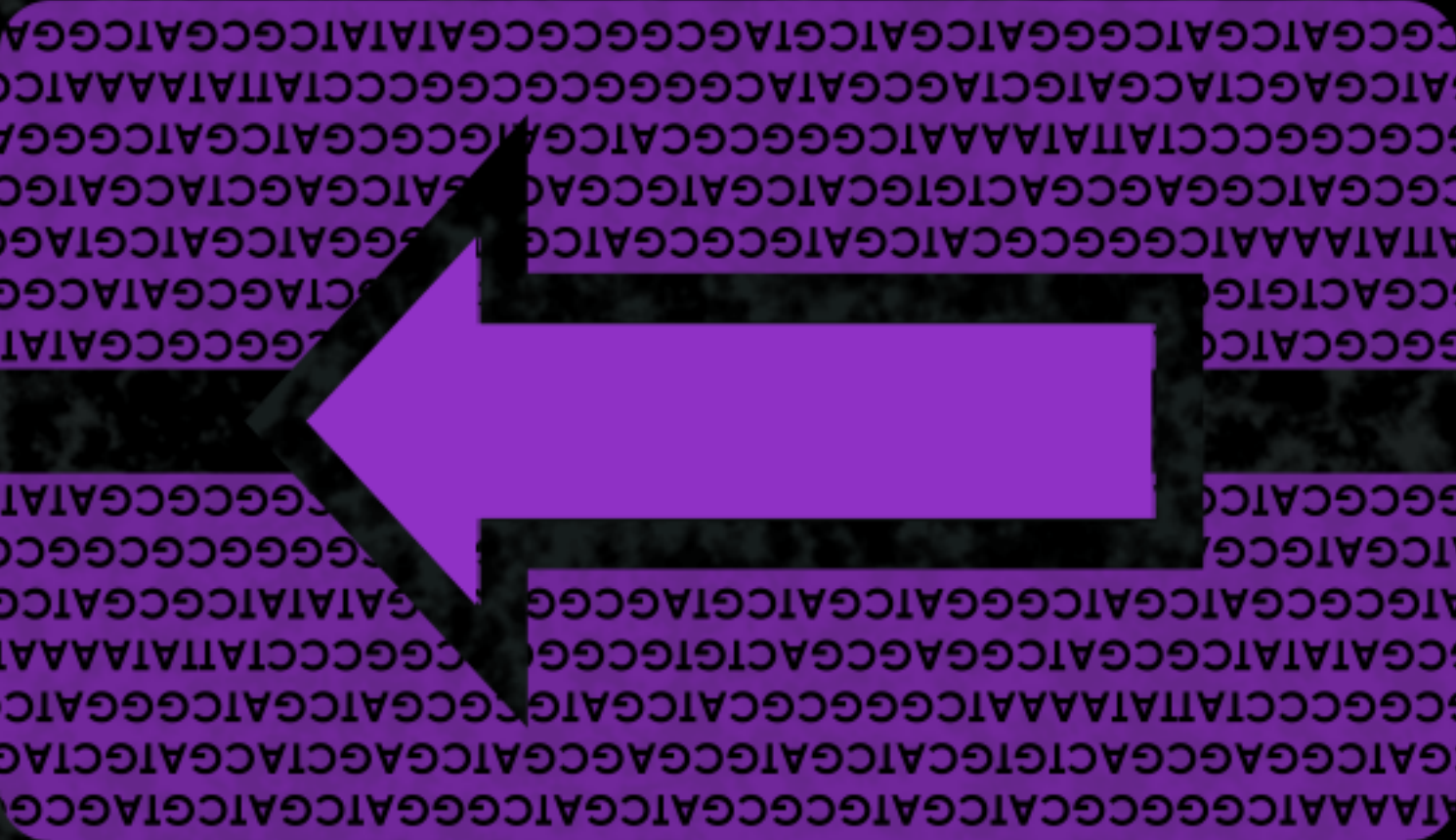
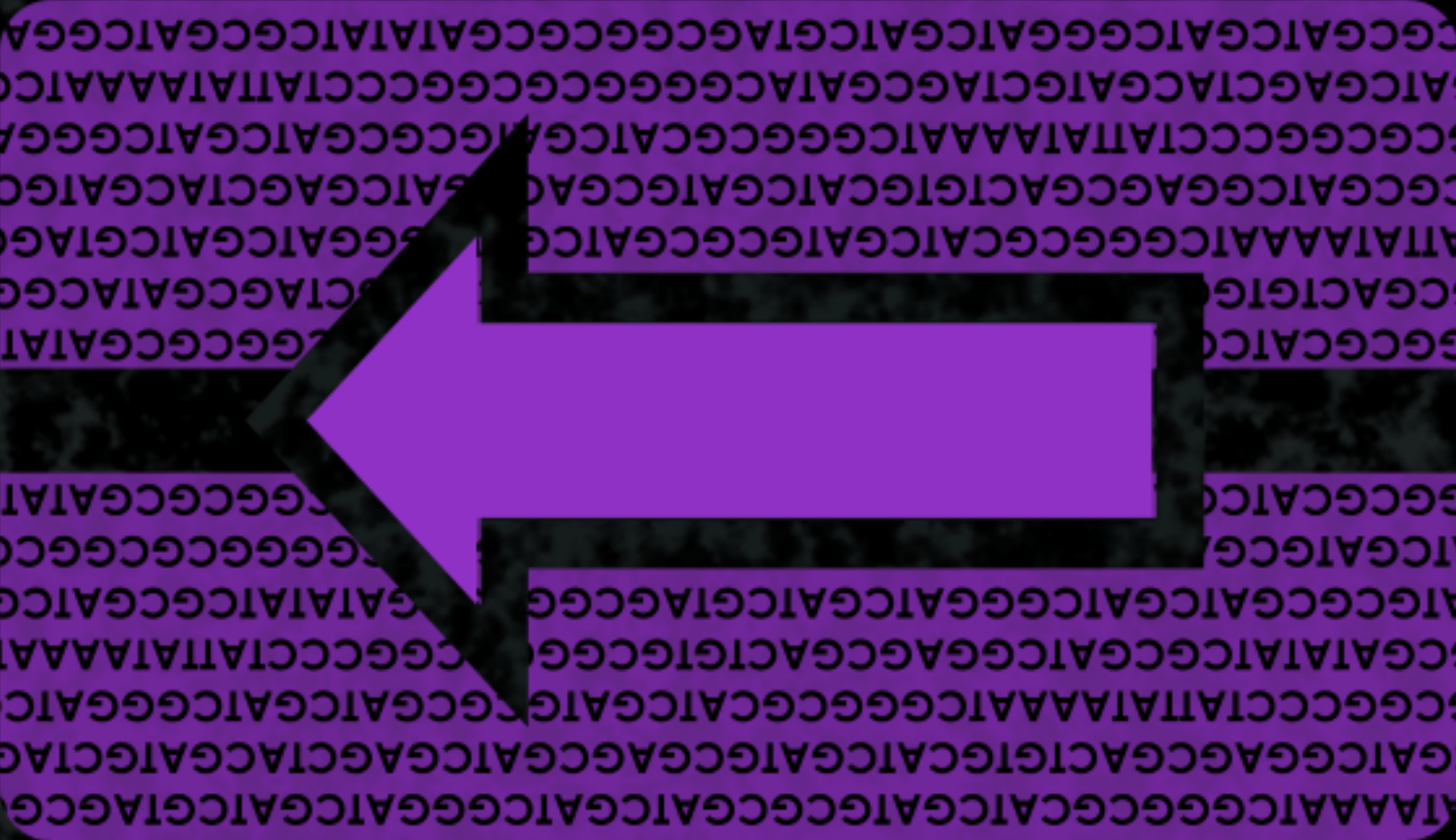
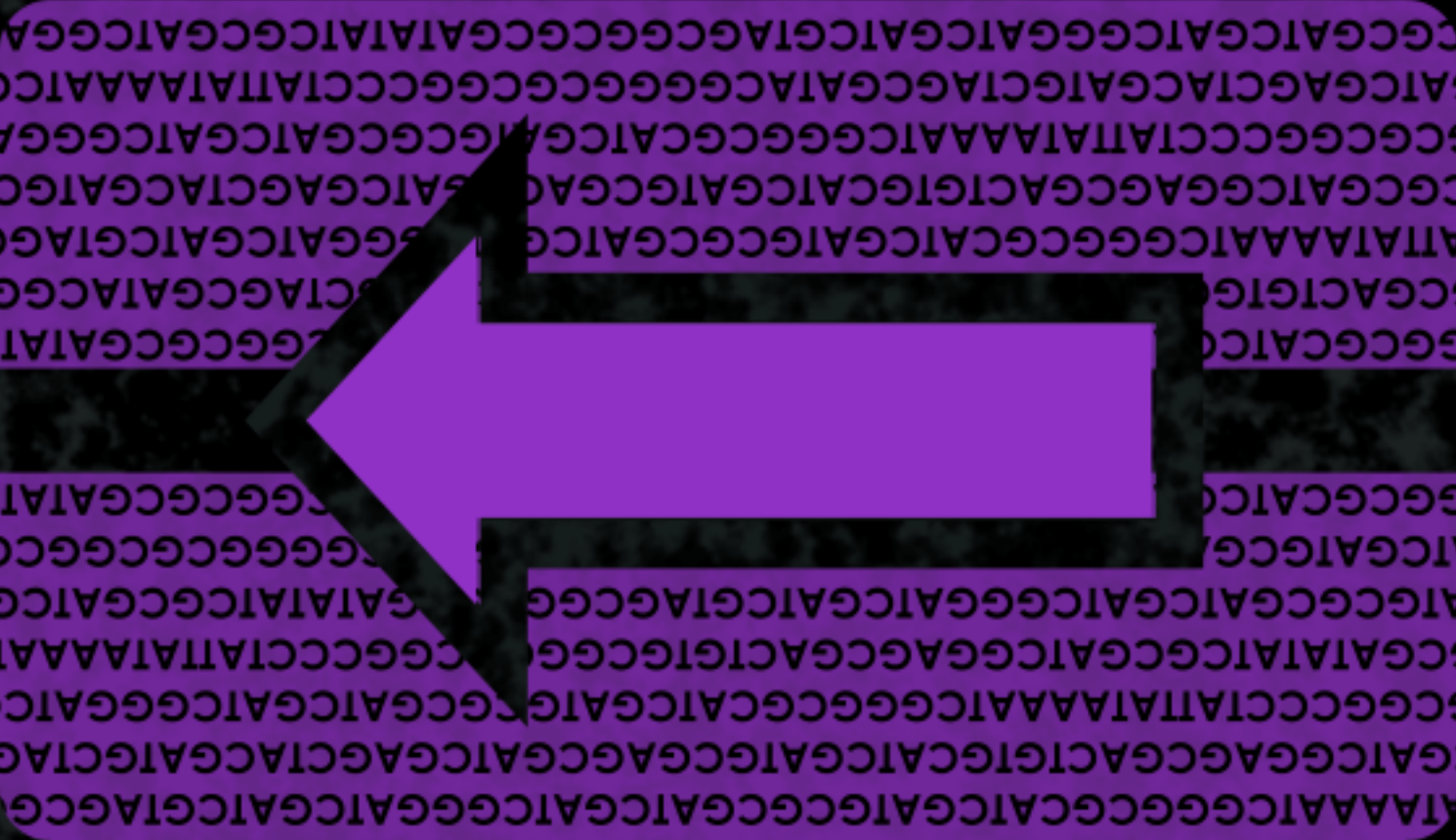
When this card is played a protein is produced that removes toxic gas. Useful if in a mine, or by a volcano.

1-2

DietSoda

Protein Coding Region

Kill Switch. This card will terminate your E. coli when placed in to a substance that has a pH<7. Useful if releasing organisms in to acidic places.



1-7 FlashLight

Protein Coding Region

Kill Switch. A very simple PCR, when you shine green light your cells will die. Your cells will release red light so you know you were successful.



1-3 FrostBite

Protein Coding Region

Kill Switch. If working in an arctic lab it would be a good idea to make sure your cells terminate if released. This PCR kills cells in cold environments.



1-3 Gassy

Protein Coding Region

Carbon dioxide will be made when this PCR is inserted in to your E. coli. This will be useful when growing crops in a harsh environment.



1-5 GreenMotion

Protein Coding Region

Fuel is vital for power generators to make electricity. With this card your E. coli can produce biofuel.



1-4 GrowFast

Protein Coding Region

Even in normal conditions crops can have a hard time growing, this is where fertiliser is useful. The protein created by this PCR will fertilise any crops you grow.



1-4 Heator

Protein Coding Region

Absorbing one photon and releasing another of lower energy is fluorescence. This PCR will make a protein that absorbs light and emits infrared (heat).



1-5 Hydrophobic

Protein Coding Region

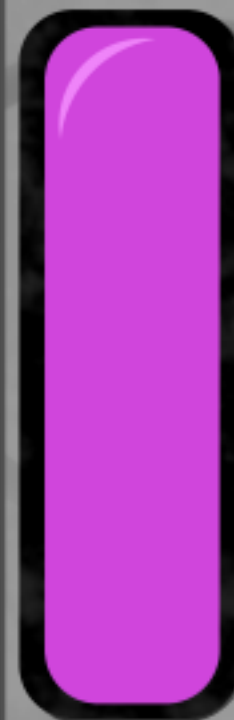
This makes a water resistant protein that could be used to make items such as a wet suit. But there are many other possibilities, what will you make?



1-5 Just Breathe

Protein Coding Region

This protein coding region produces oxygen. This could be useful when in environments that humans can't breathe in.



1-3 LifeSaver

Protein Coding Region

Whether you're on a desert island or in the sea, venomous animals will be close. This PCR could save your life by making valuable anti-venom's.

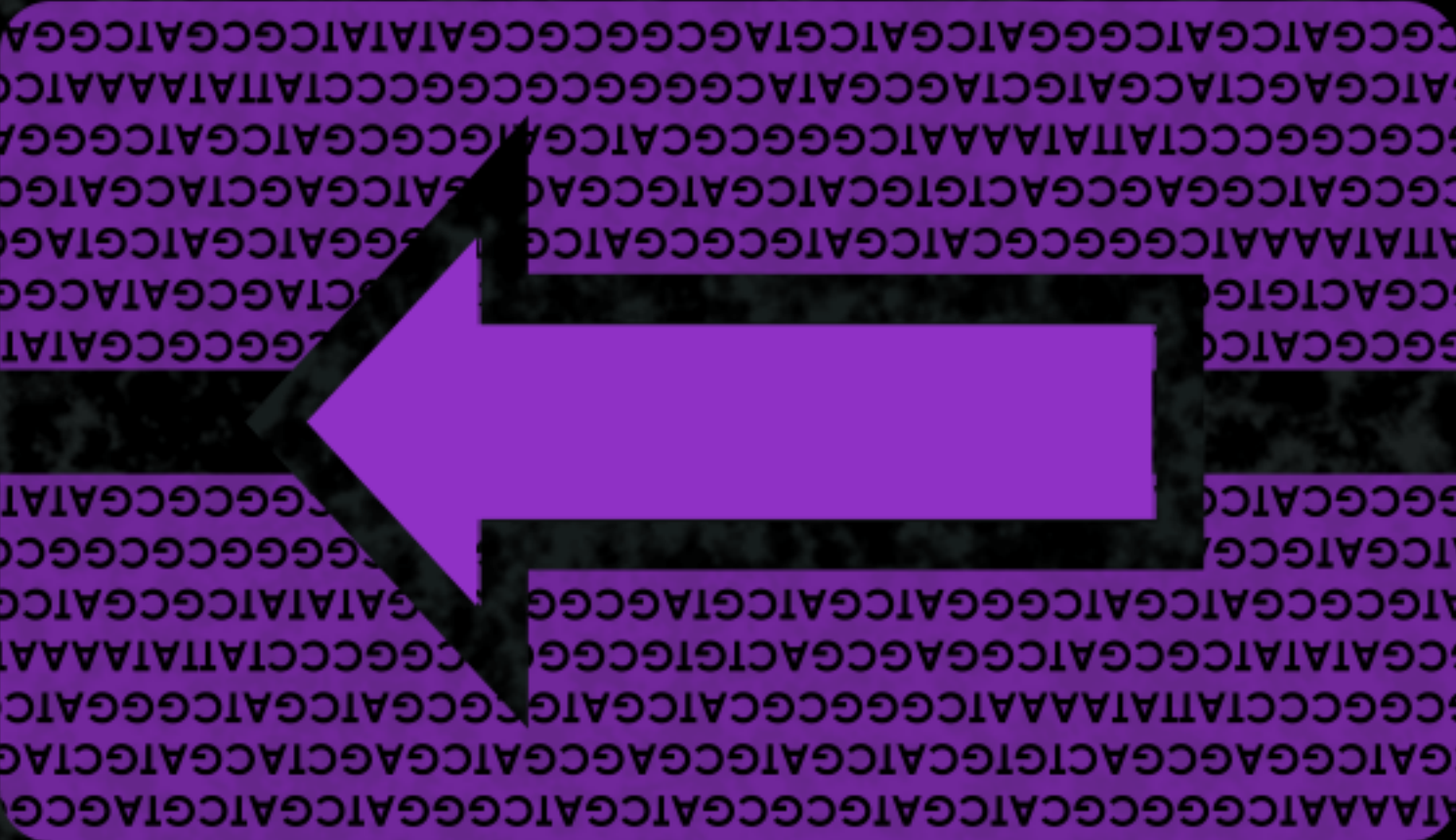
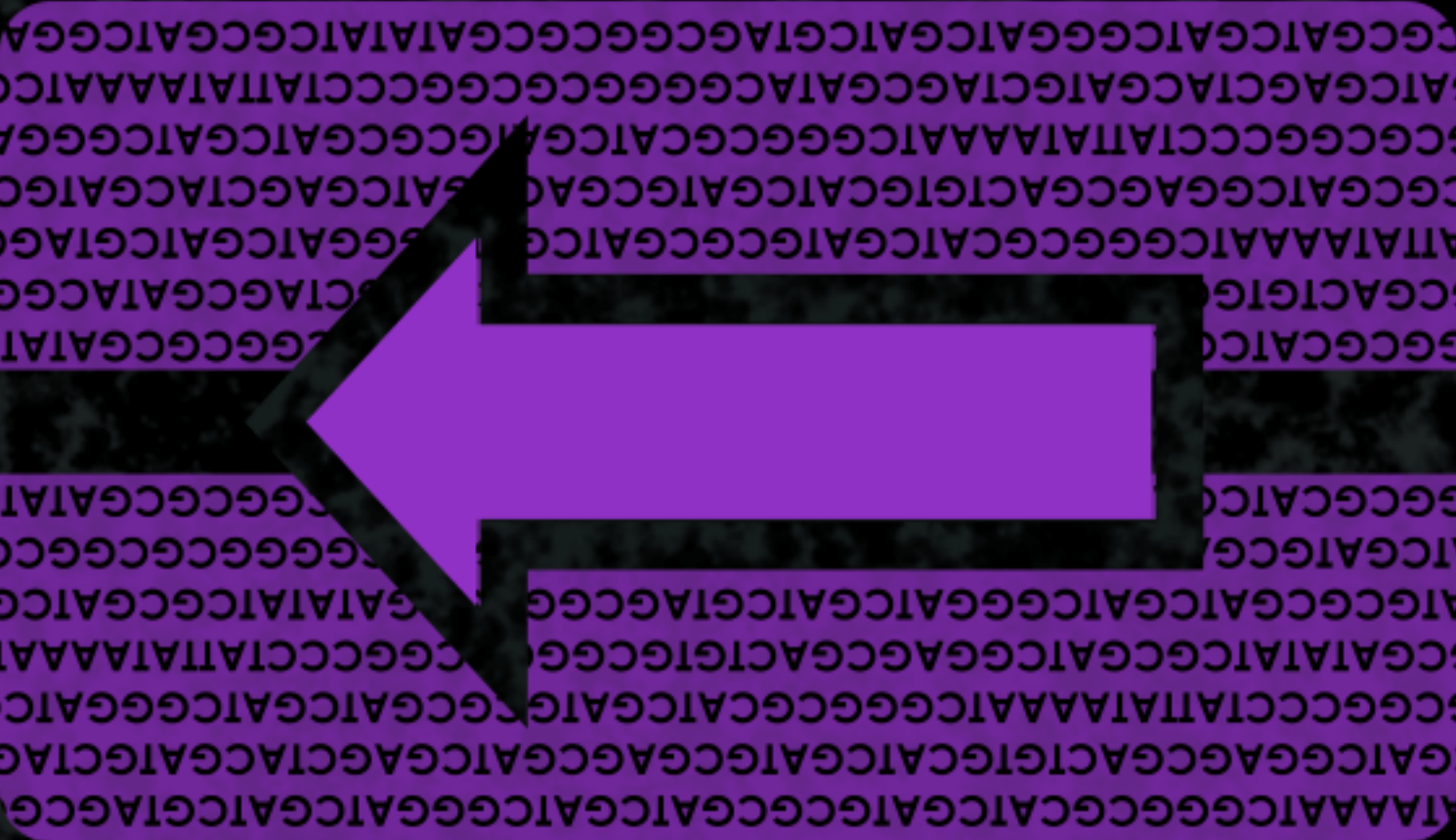
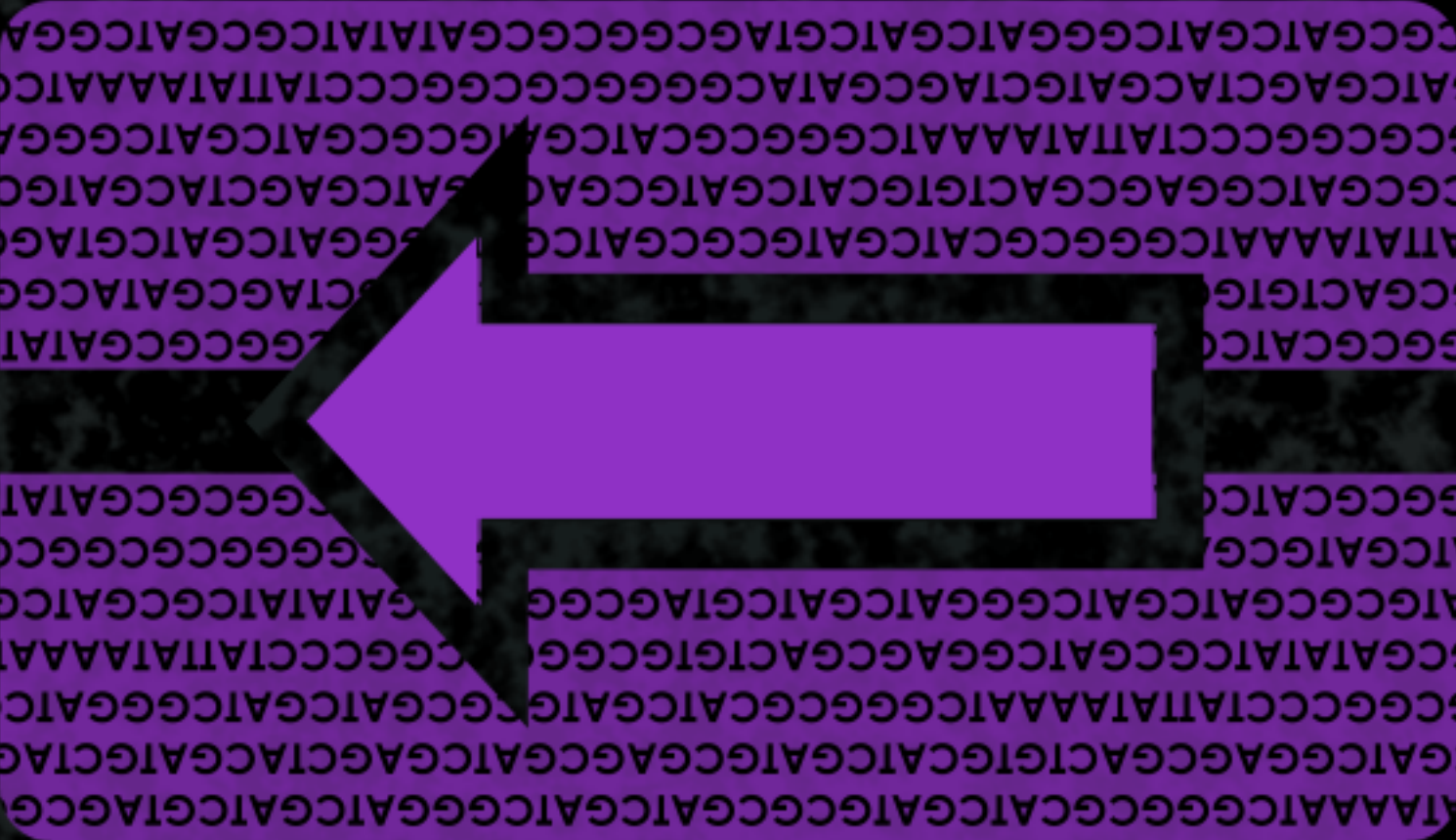
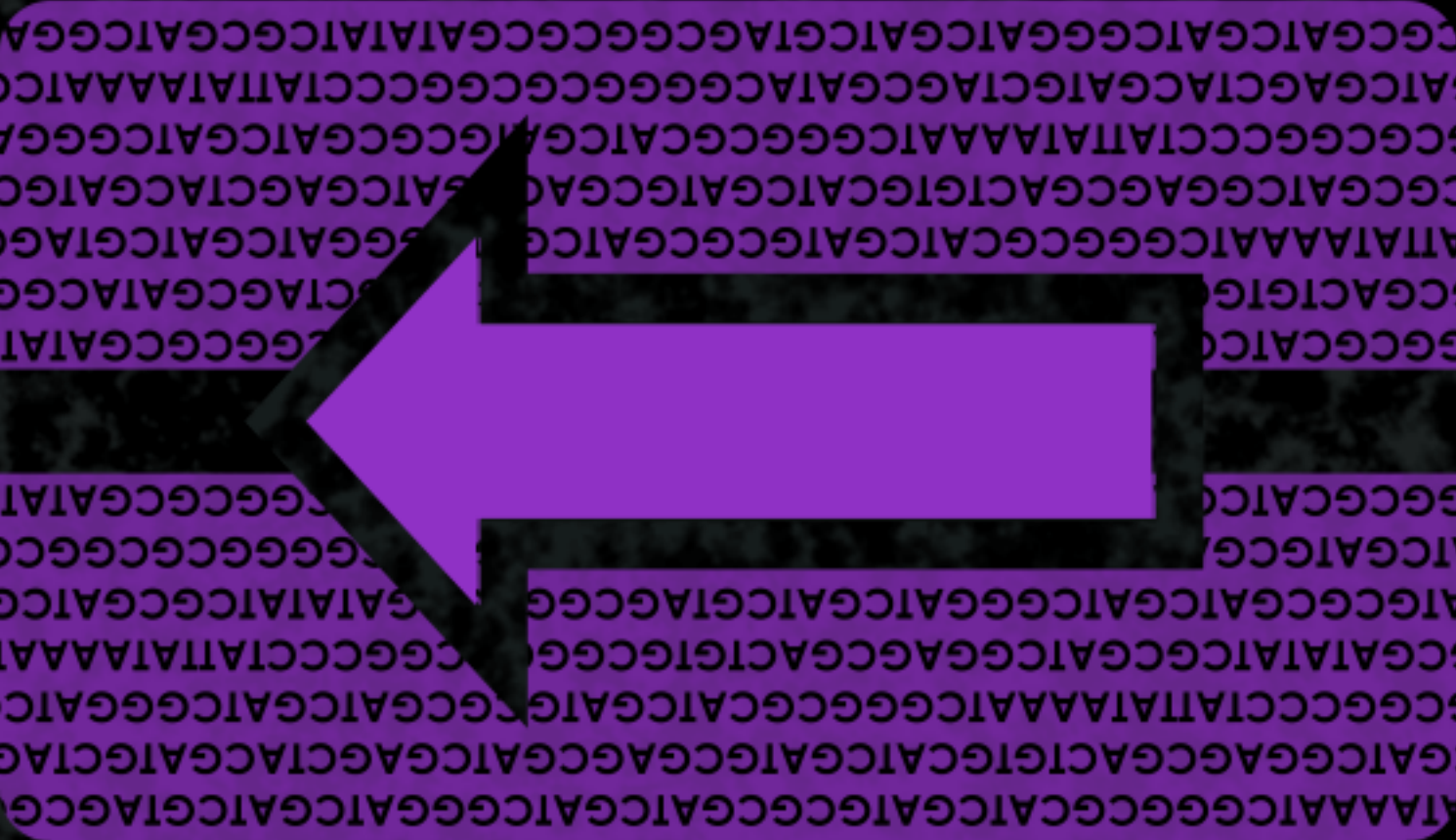
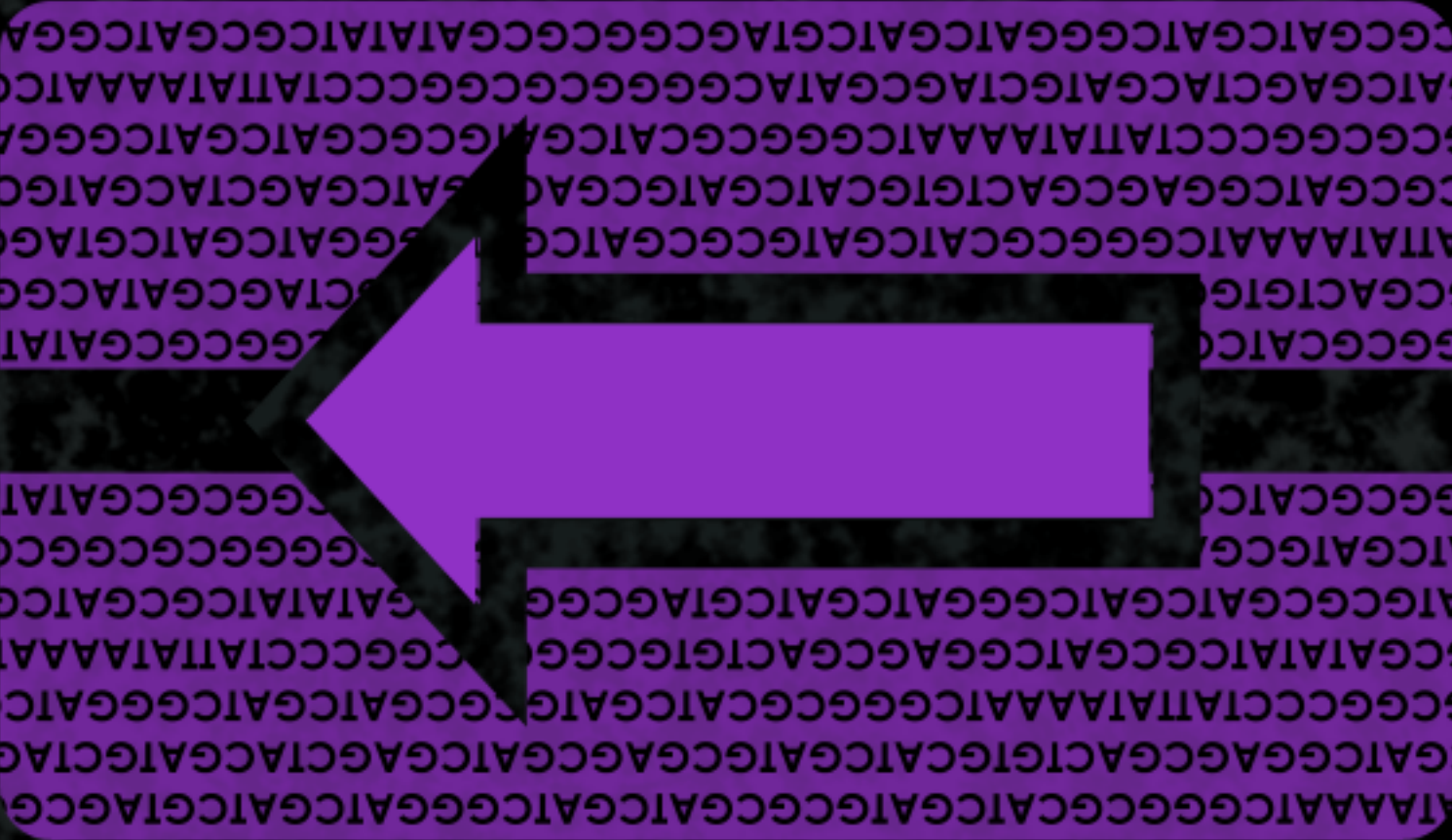
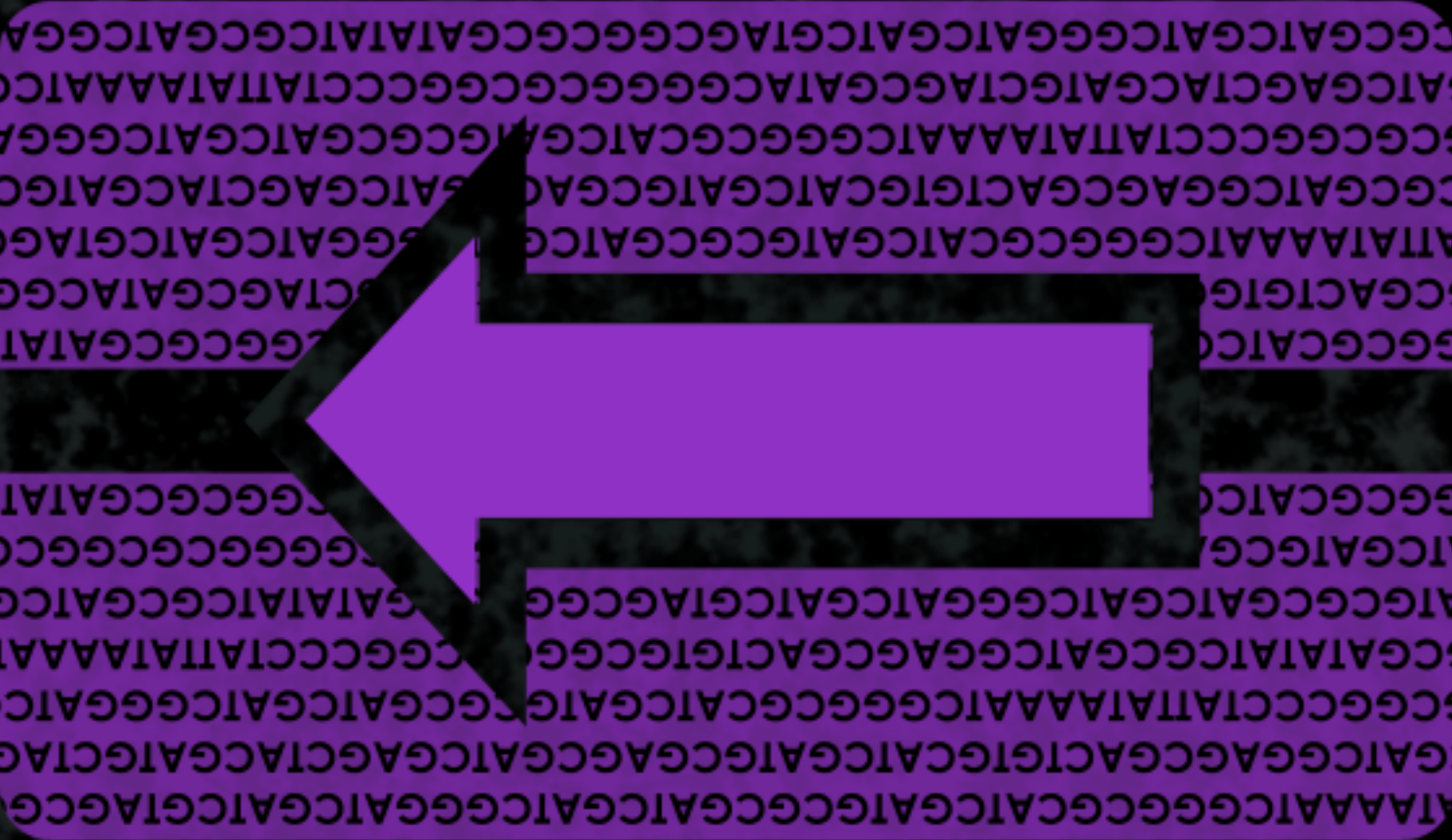
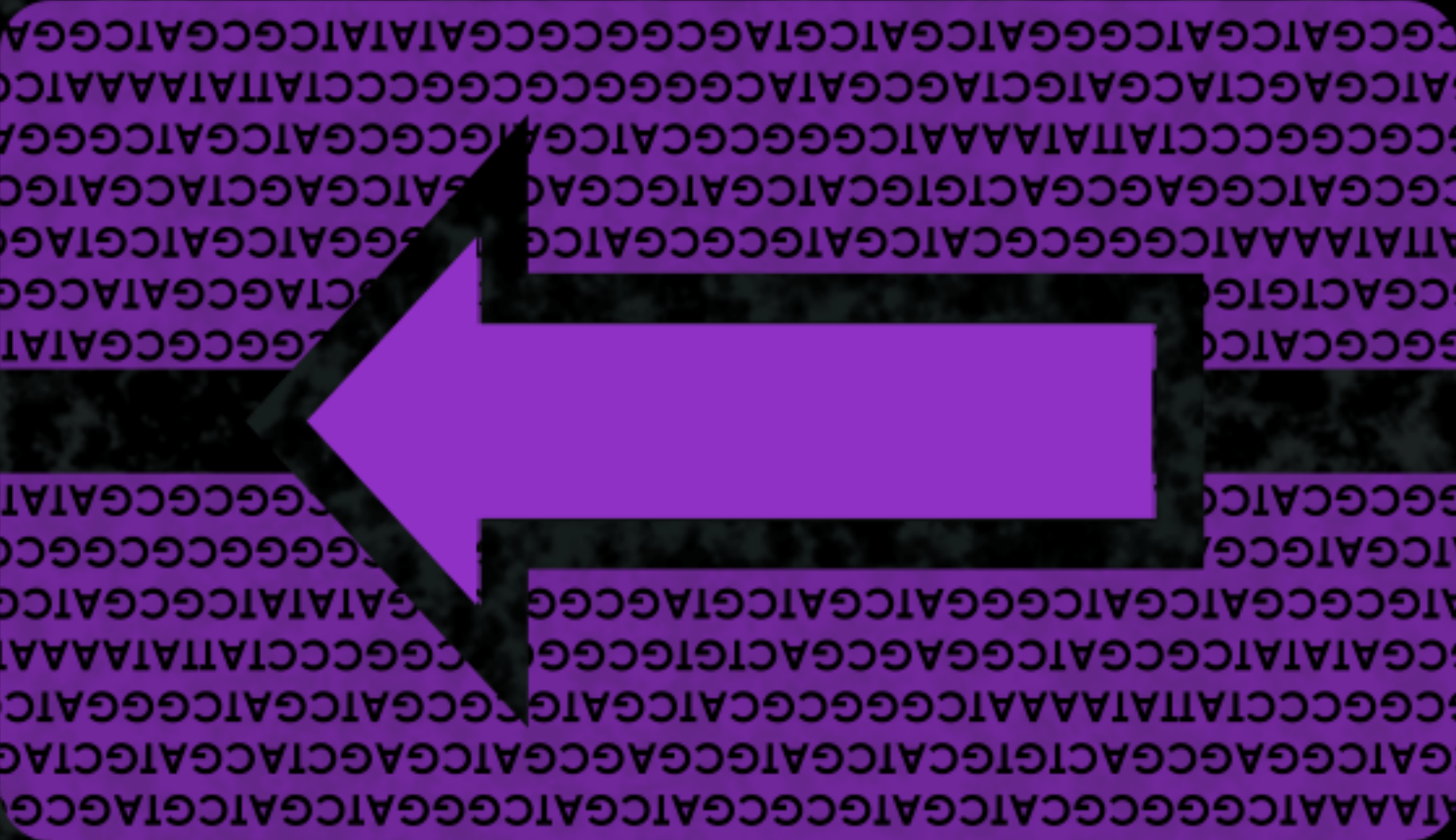
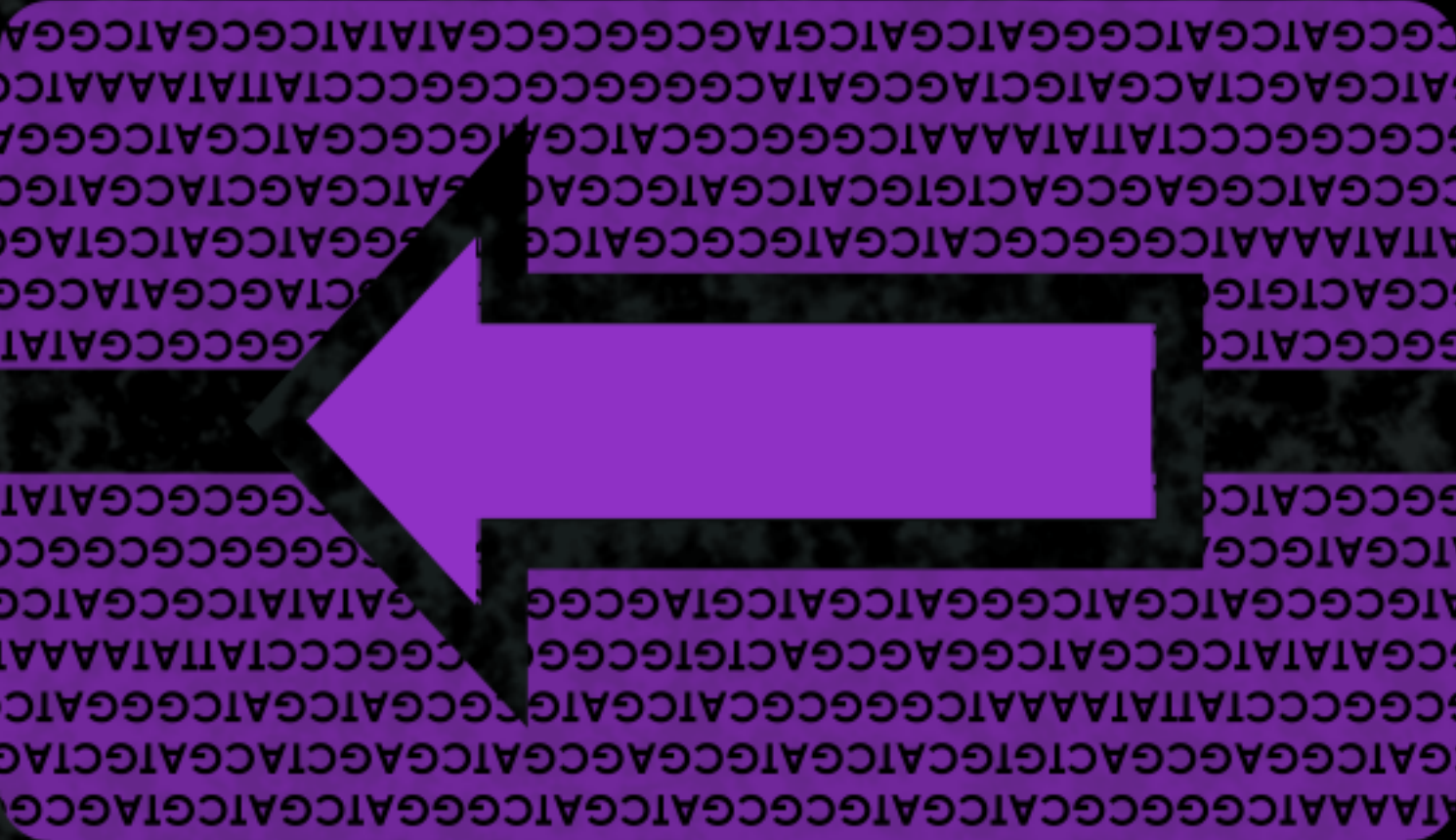
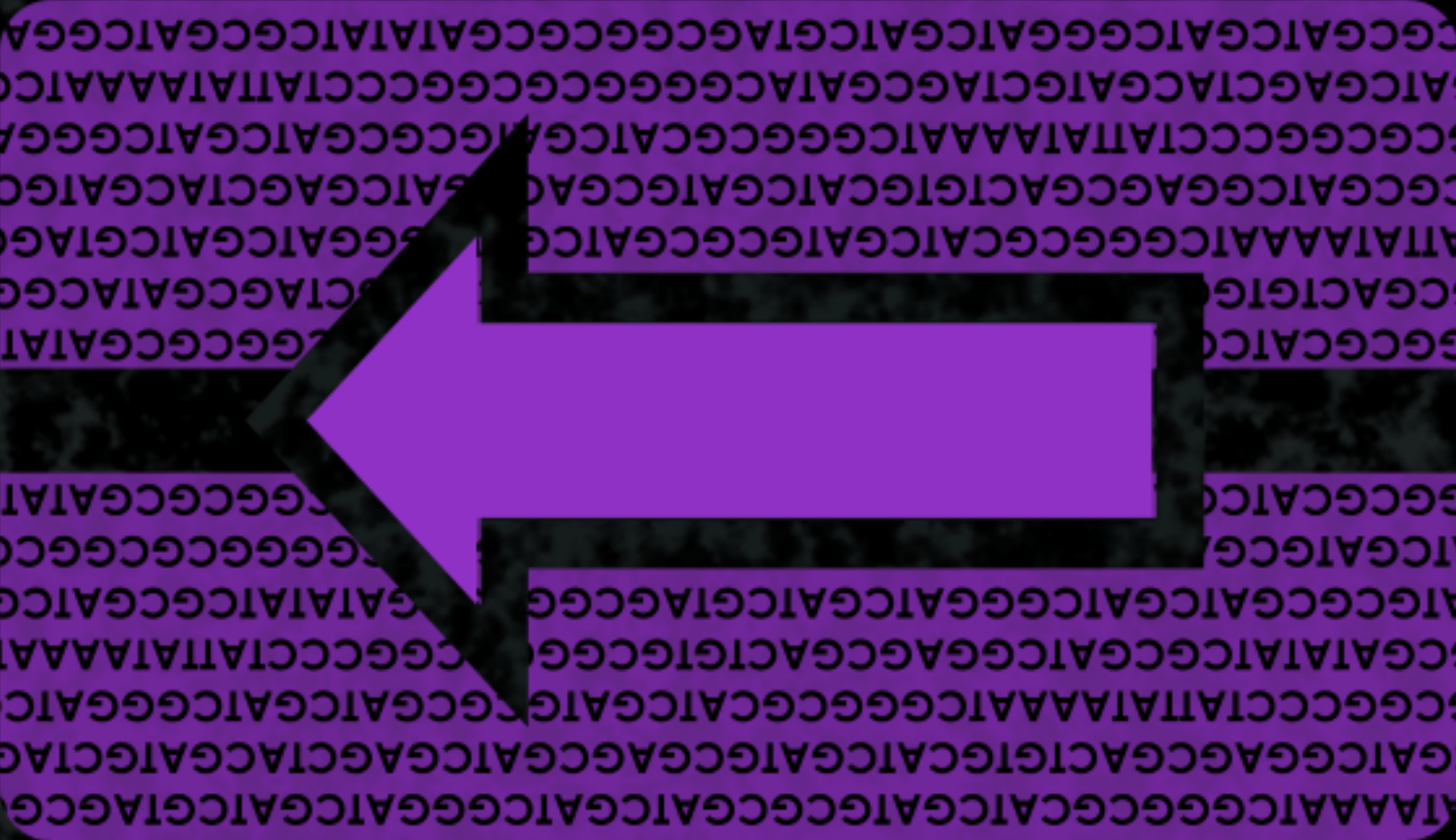
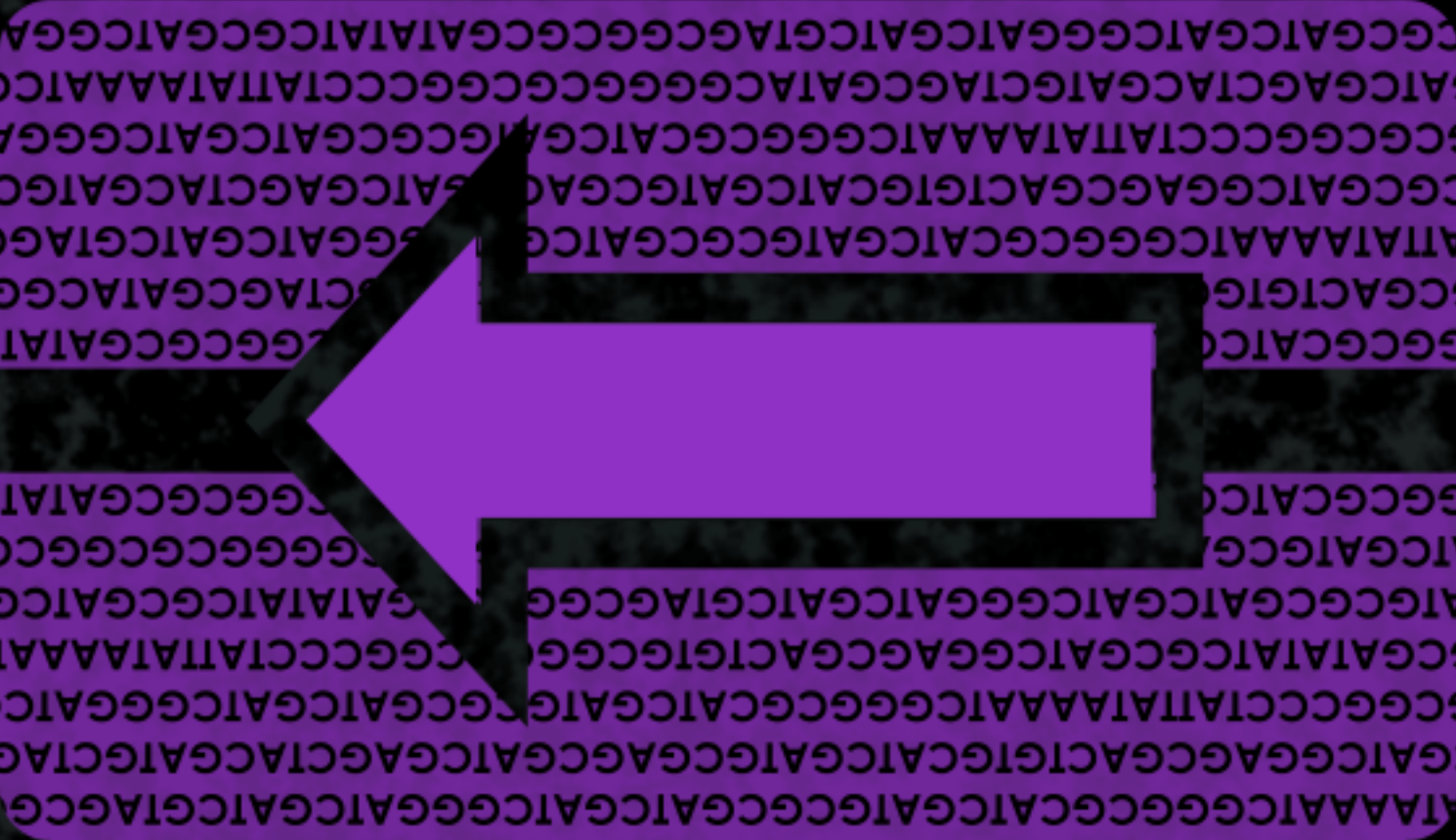


1-4 Luminous

Protein Coding Region

Some environments have no natural light, this will make life difficult for you. This protein coding region will create a glowing protein.





1-5 Mushroom

Protein Coding Region

When an environment is too hostile for wildlife or plants, fungi may be the way forward. This PCR will allow your E. coli to produce an edible fungus.

1-4 Nightmare

Protein Coding Region

Kill Switch. Your E. coli will no longer last the night. When in a dark environment your cells will terminate.

1-2 NoChill

Protein Coding Region

Cells usually don't take too well to cold environments. If you play this card your colony will no longer freeze.

1-4 Not-An-Alka-Guy

Protein Coding Region

Kill Switch. If this card is played your E. coli will find alkalines unbearable. Who can blame it? Your cells will terminate when in a $\text{pH} > 7$.

1-4 Recyclops

Protein Coding Region

This PCR will produce a protein that safely degrades plastic. This is useful considering there is a lot of plastic contaminating fresh water sources.

1-2 Resist

Protein Coding Region

Very warm environments will typically inhibit the growth of E. coli. This PCR will allow your colony to thrive in hot environments.

1-3 Squeaky

Protein Coding Region

This PCR will produce helium. Remember helium has important uses such as cooling MRI scanners, as well as blowing up balloons.

1-5 SunBurn

Protein Coding Region

Kill Switch. Your E. coli will not survive if released in to a hot environment. Useful if you were to accidentally release your colonies.

1-3 SunCream

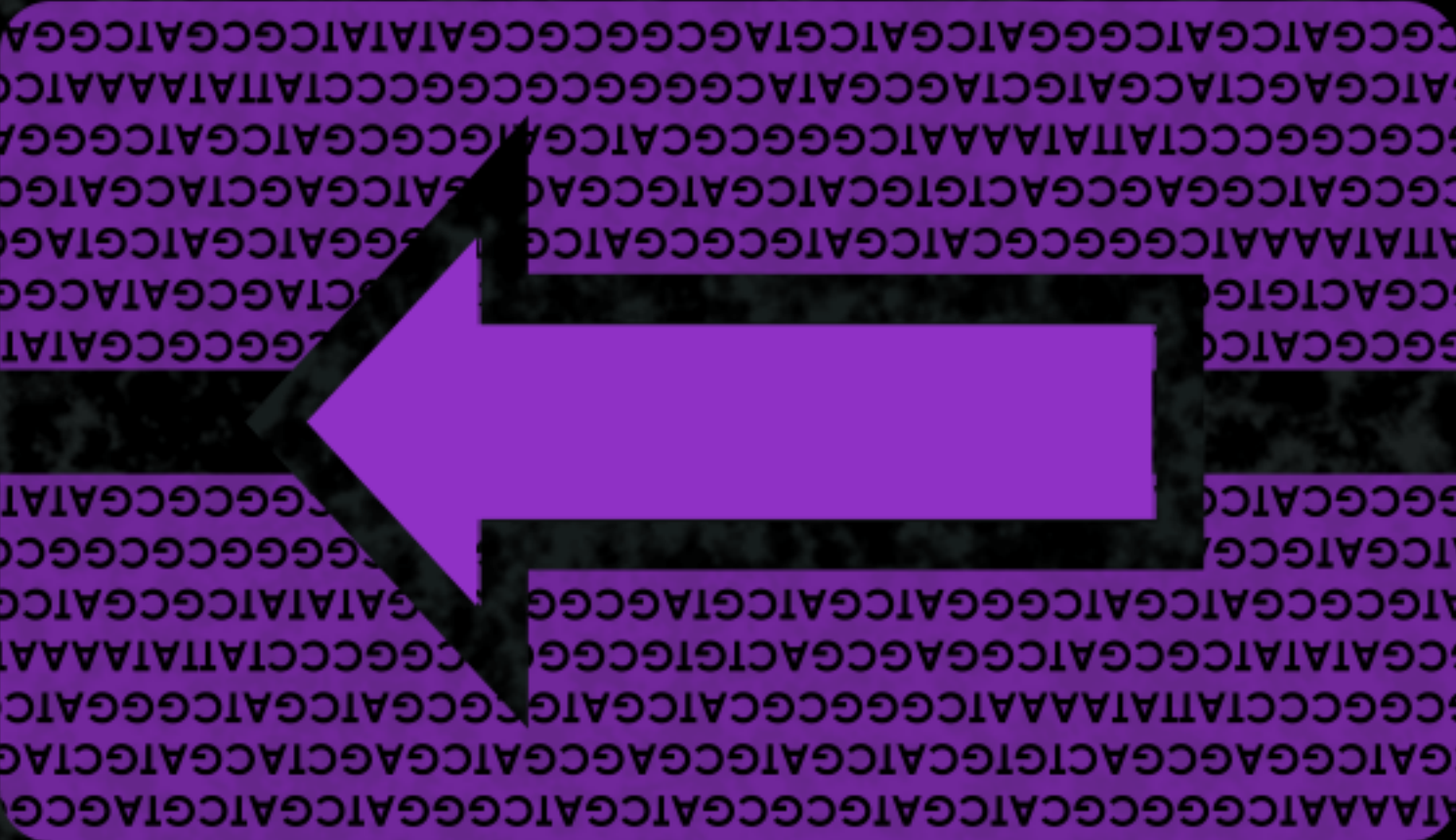
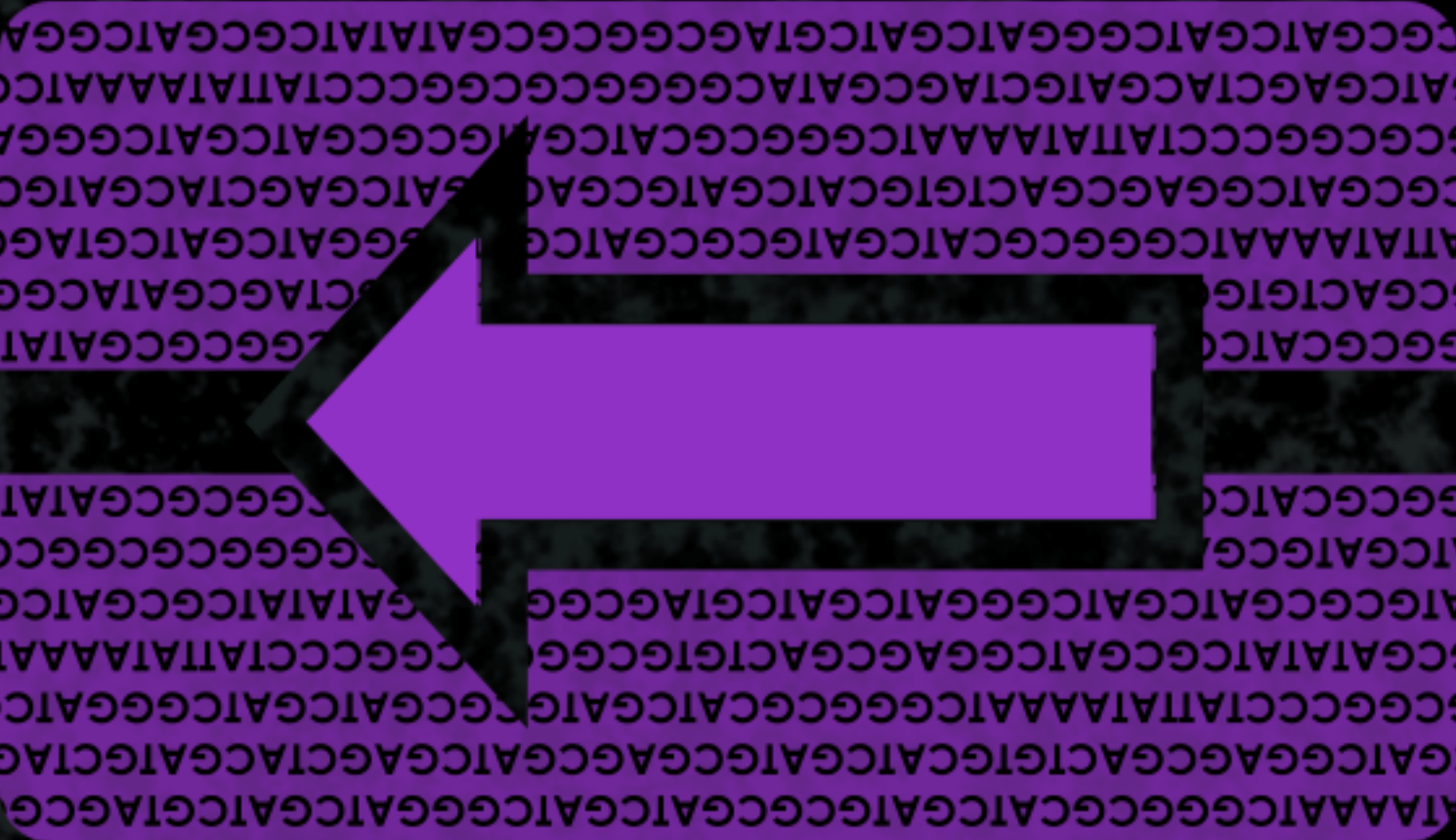
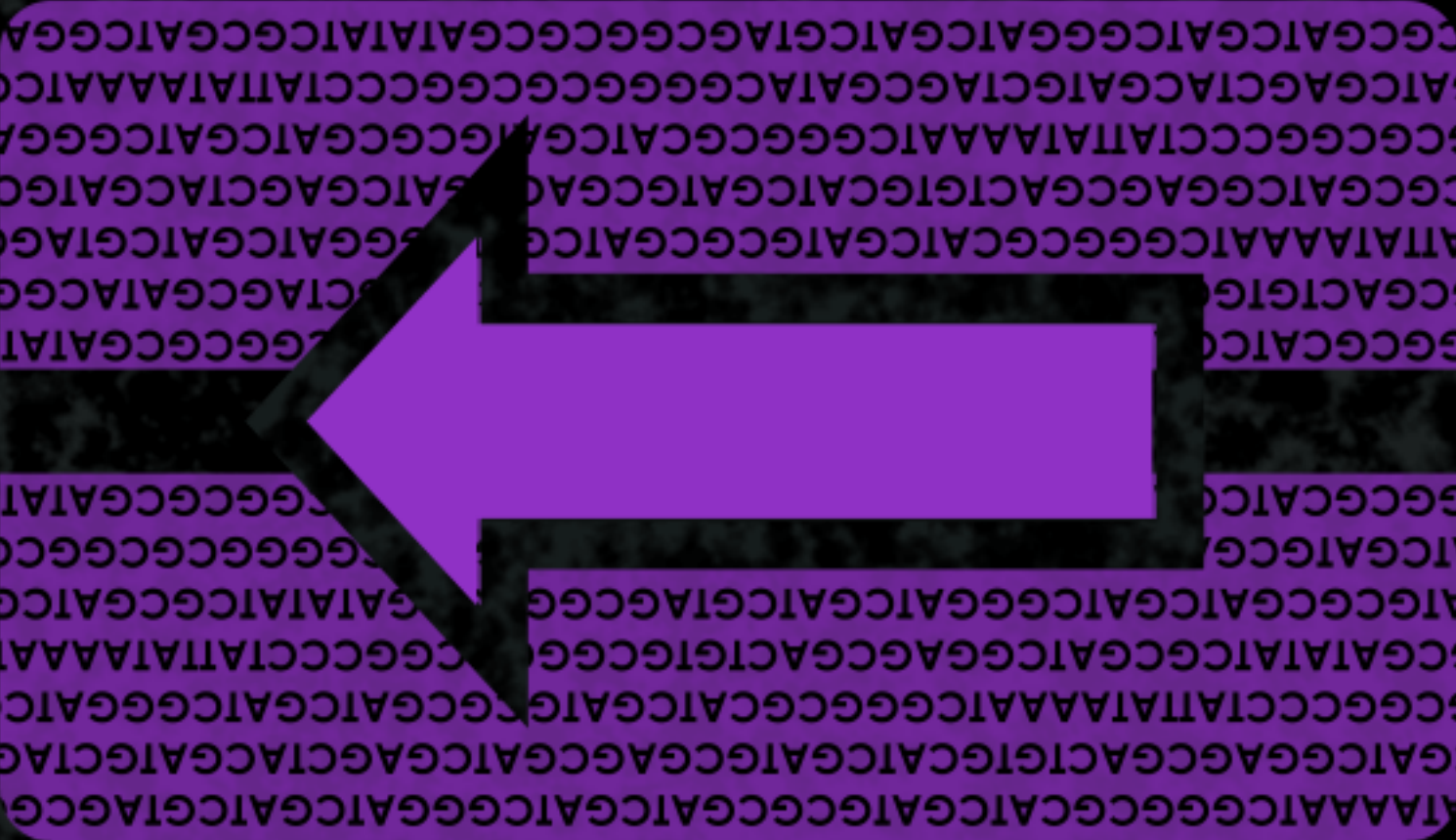
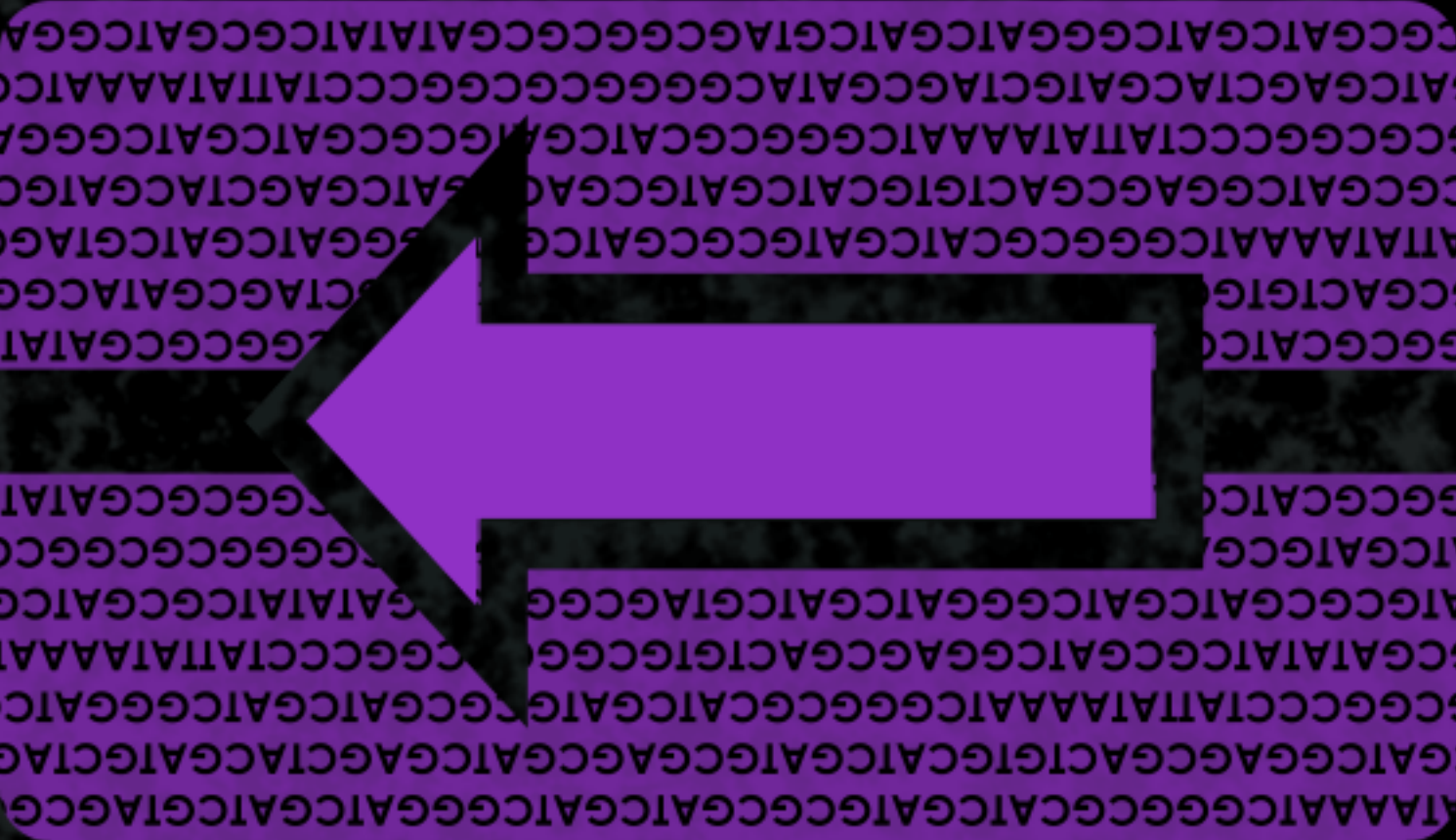
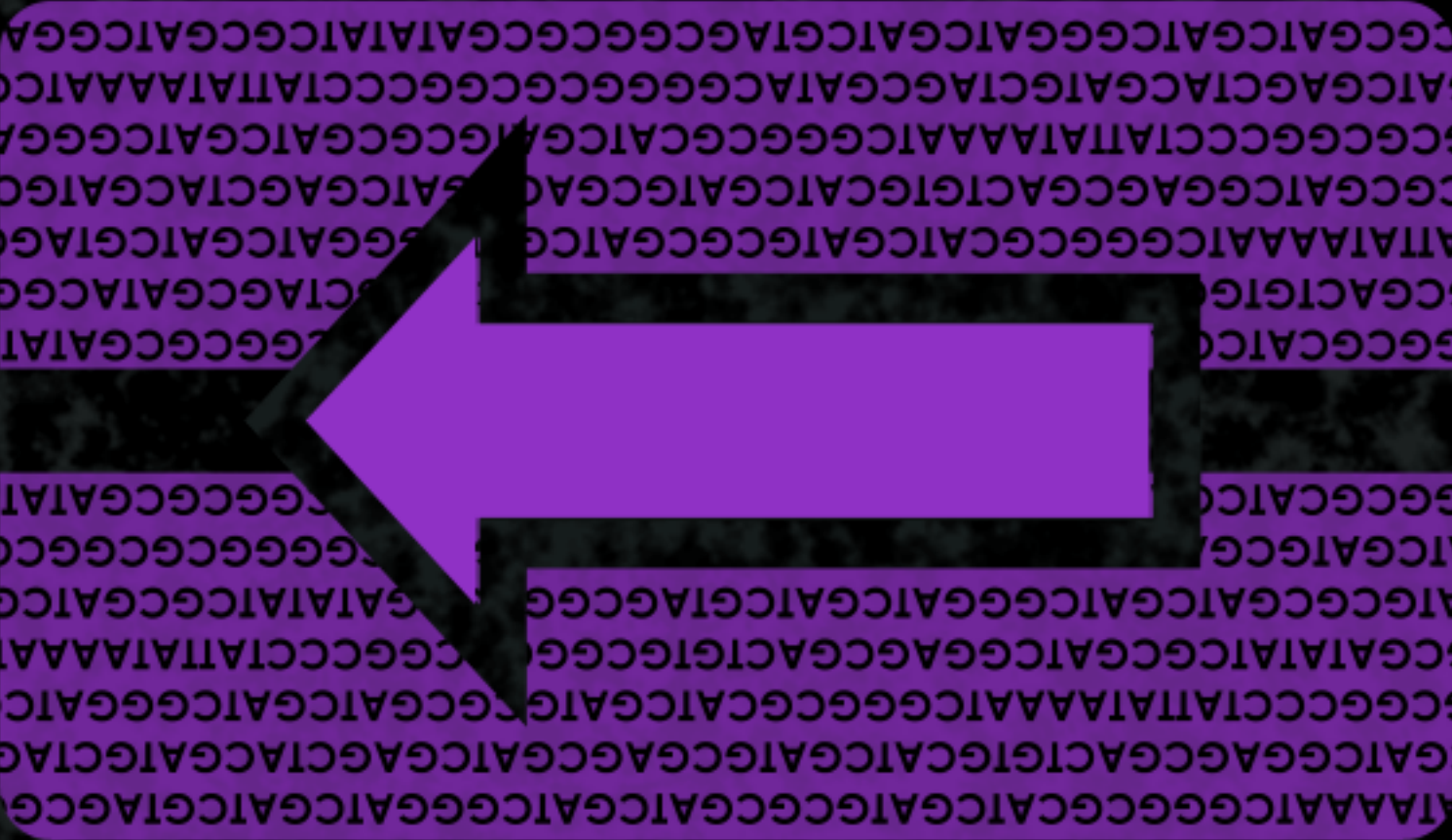
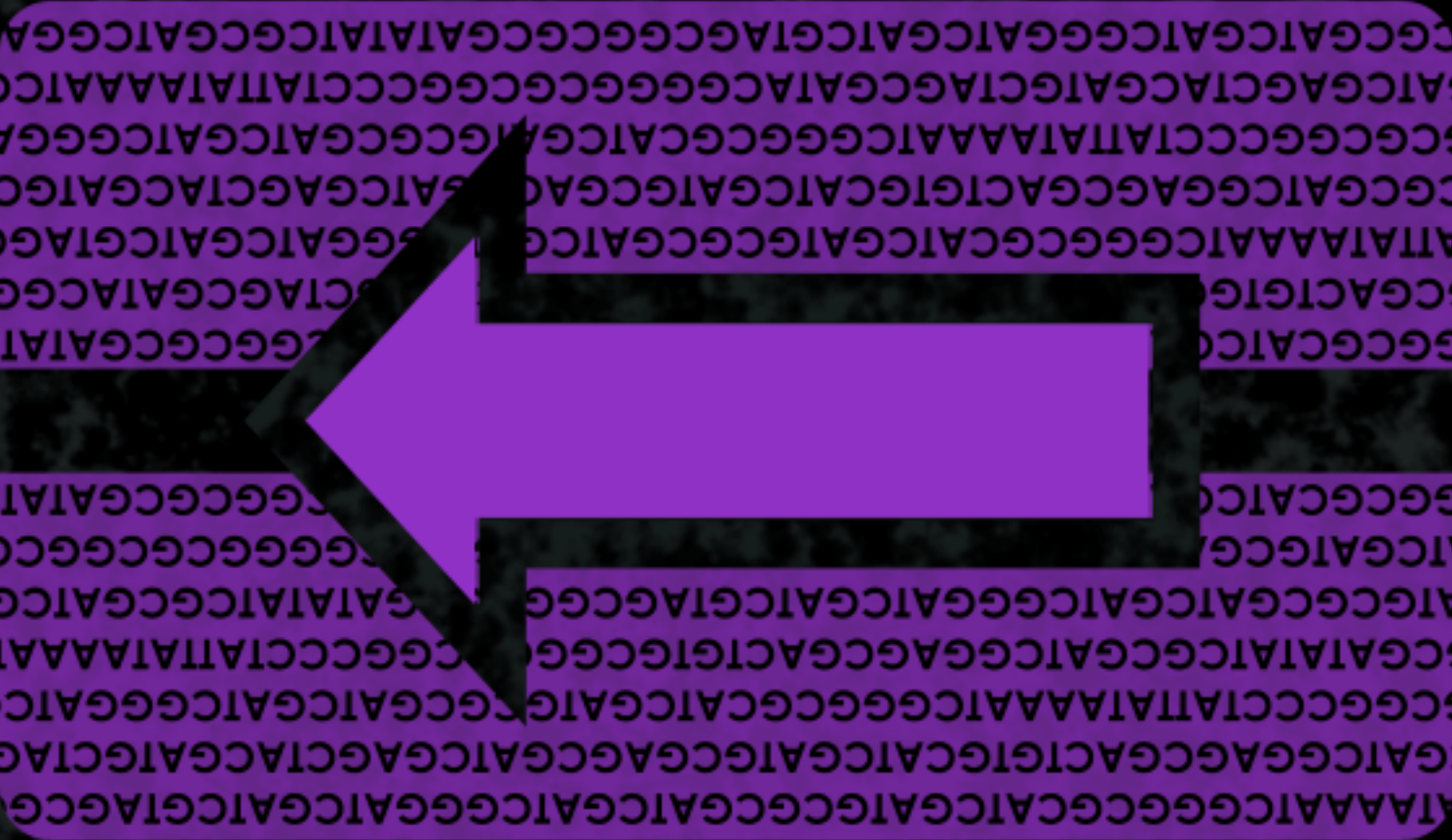
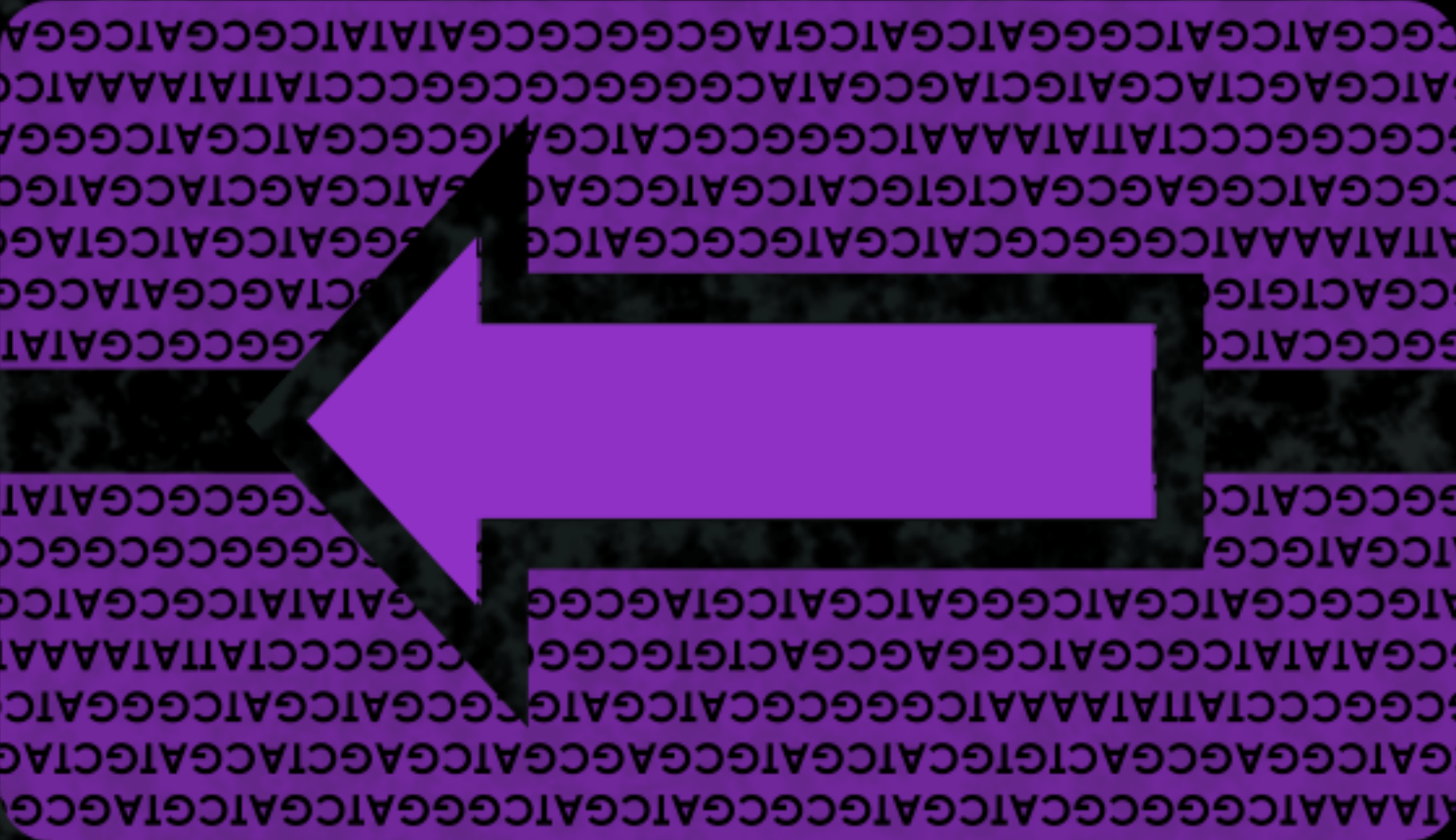
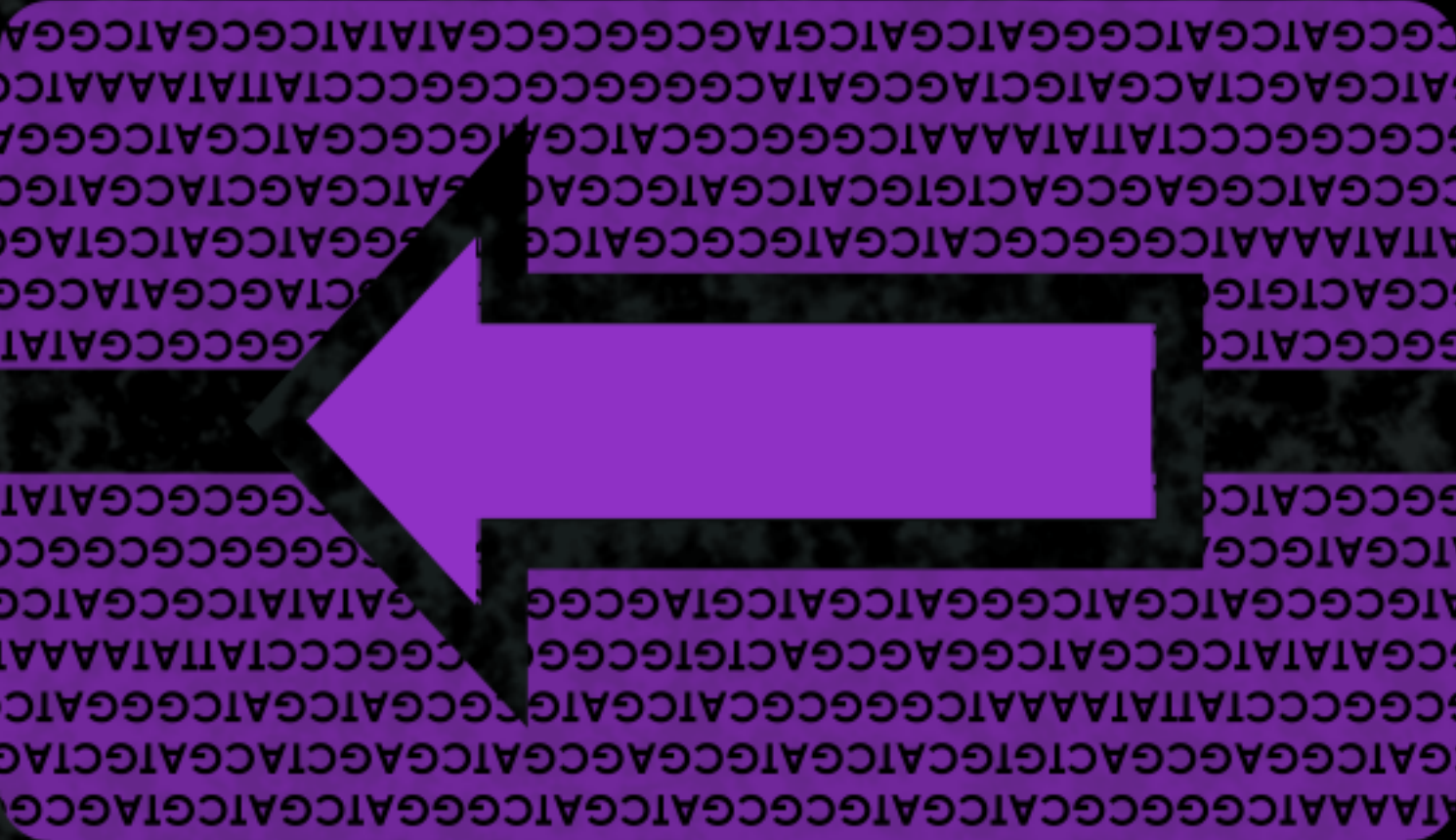
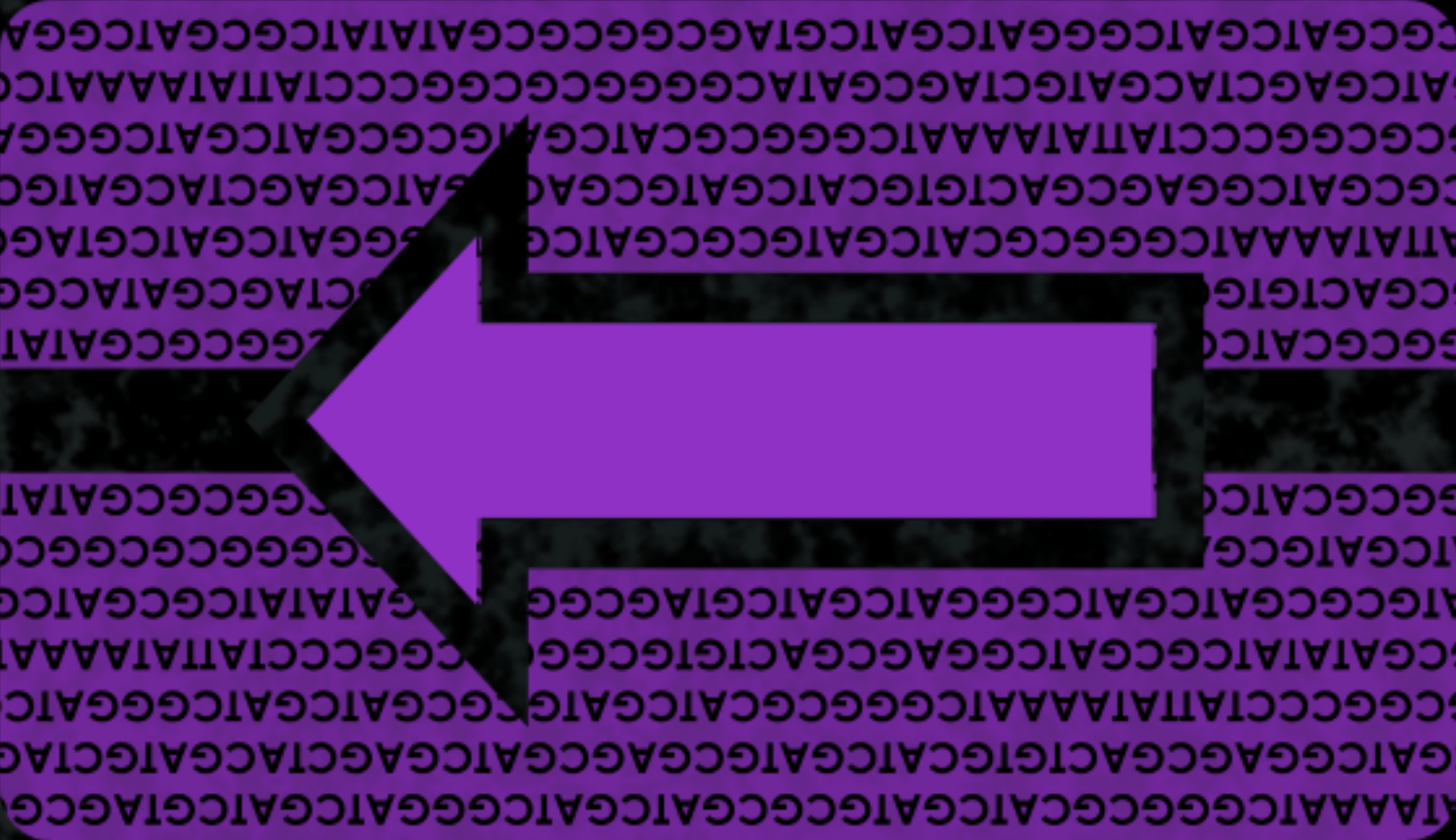
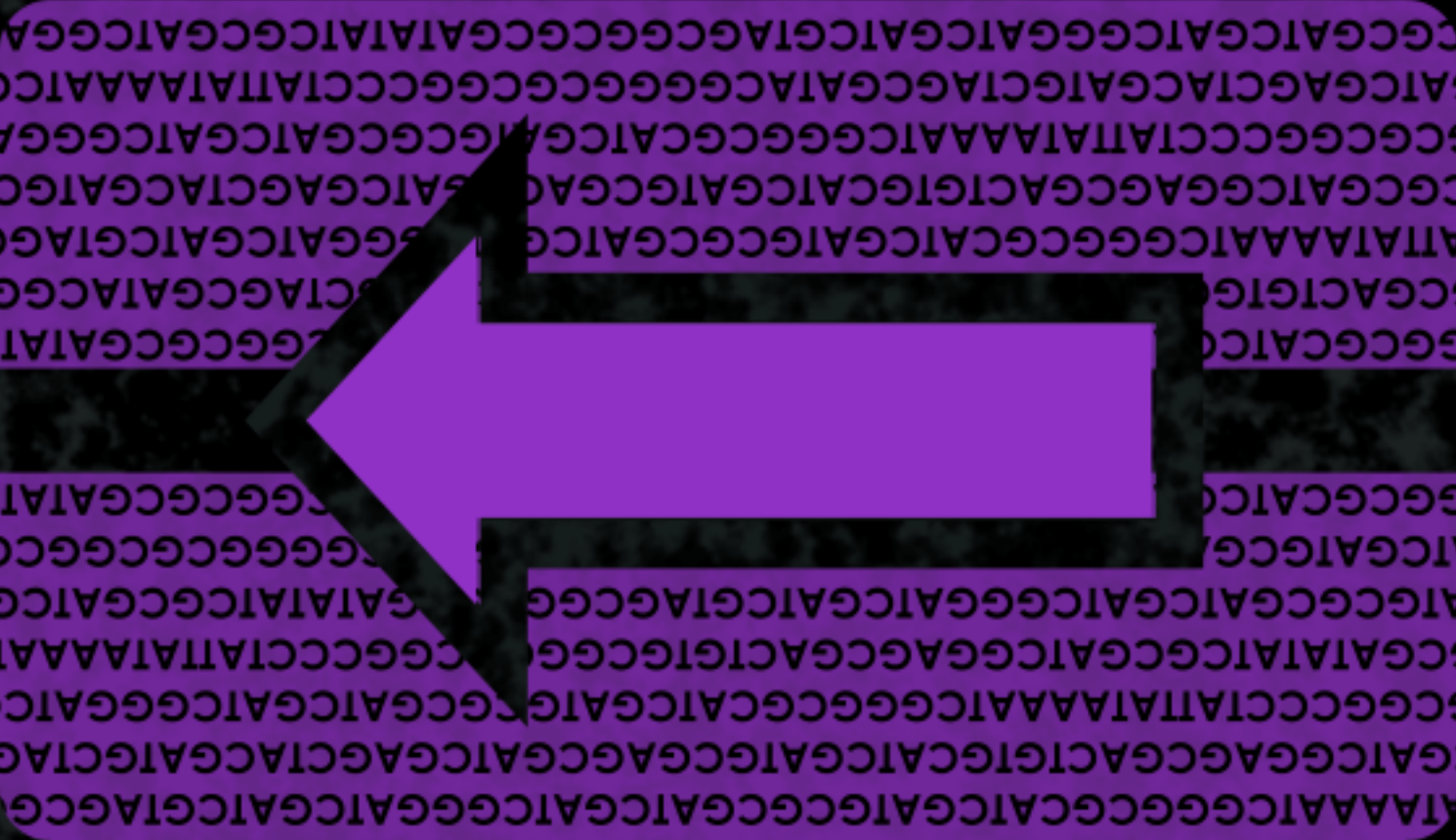
Protein Coding Region

This PCR produces a protein that blocks UV radtion which could otherwise cause skin cancer. Be sure to use if stranded in the sun with no shelter.

1-4 TexStyles

Protein Coding Region

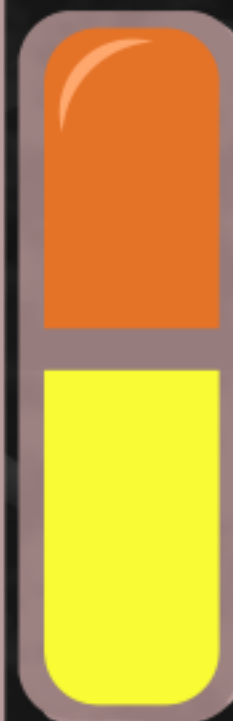
Silk can be used to make colthes, of course this is not the only use for silk, that is for you to decide. This PCR will allow your E. coli to make silk.



1-6 TimeBomb

Protein Coding Region

Kill Switch. You have 6 hours before your E. coli lyses, so be quick! This is a useful card as it will kill all cells in an environment after a long amount of time.



1-3 Desaltifier

Protein Coding Region

Wouldn't it be great if you could drink sea water? This card may just make that possible. Play this card to remove salt from any environment you are in.



1-5 DeToxify

Protein Coding Region

When this card is played a protein is produced that removes toxic gas. Useful if in a mine, or by a volcano.



1-7 FlashLight

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Kill Switch. A very simple PCR, when you shine green light your cells will die. Your cells will release red light so you know you were successful.



1-5 GreenMotion

Protein Coding Region

Fuel is vital for power generators to make electricity. With this card your E. coli can produce biofuel.



1-5 Just Breathe

Protein Coding Region

This protein coding region produces oxygen. This could be useful when in environments that humans can't breathe in.



1-5 Mushroom

Protein Coding Region

When an environment is too hostile for wildlife or plants, fungi may be the way forward. This PCR will allow your E. coli to produce an edible fungus.



1-2 NoChill

Protein Coding Region

Cells usually don't take too well to cold environments. If you play this card your colony will no longer freeze.



1-3 Squeaky

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This PCR will produce helium. Remember helium has important uses such as cooling MRI scanners, as well as blowing up balloons.

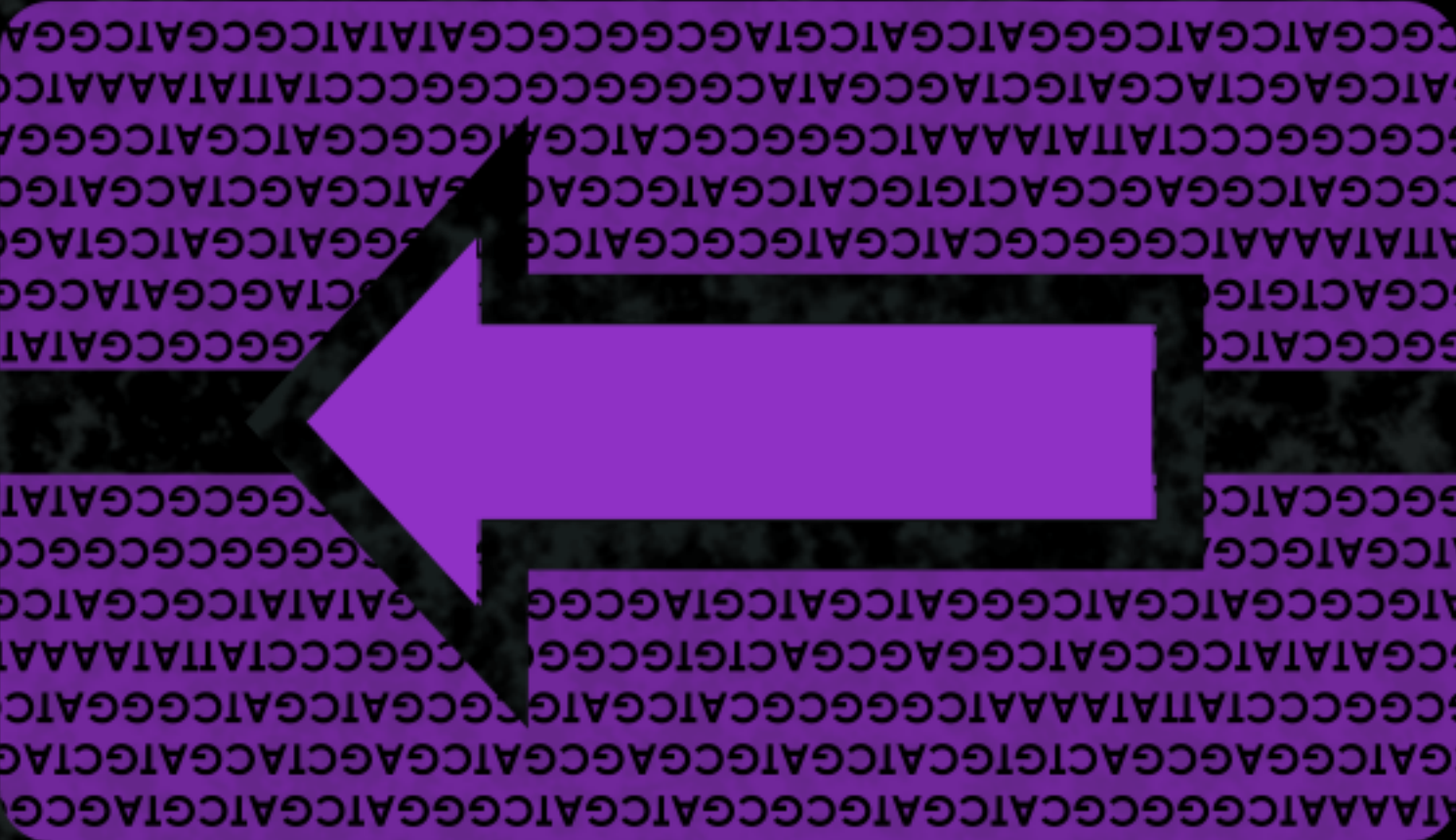
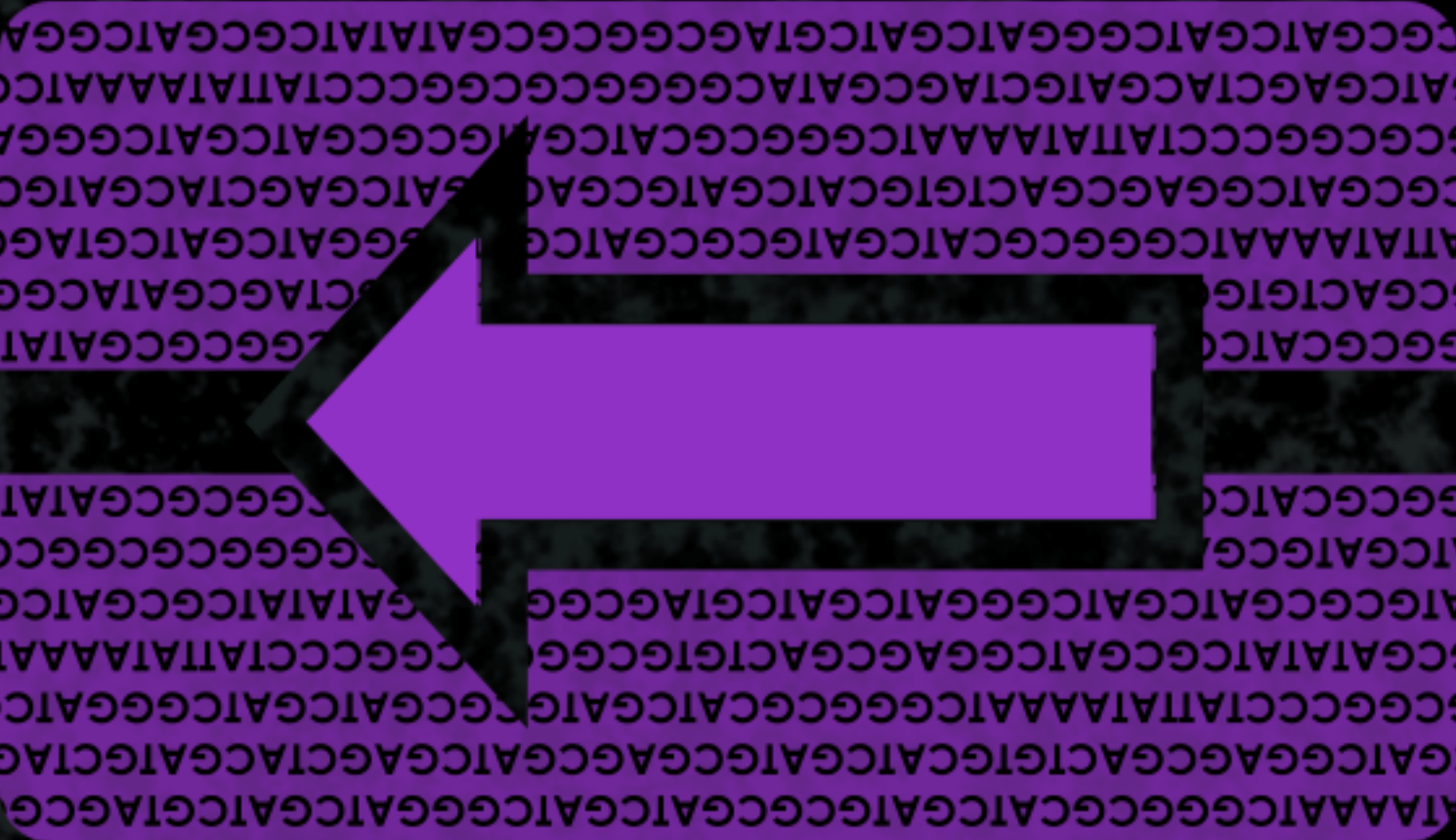
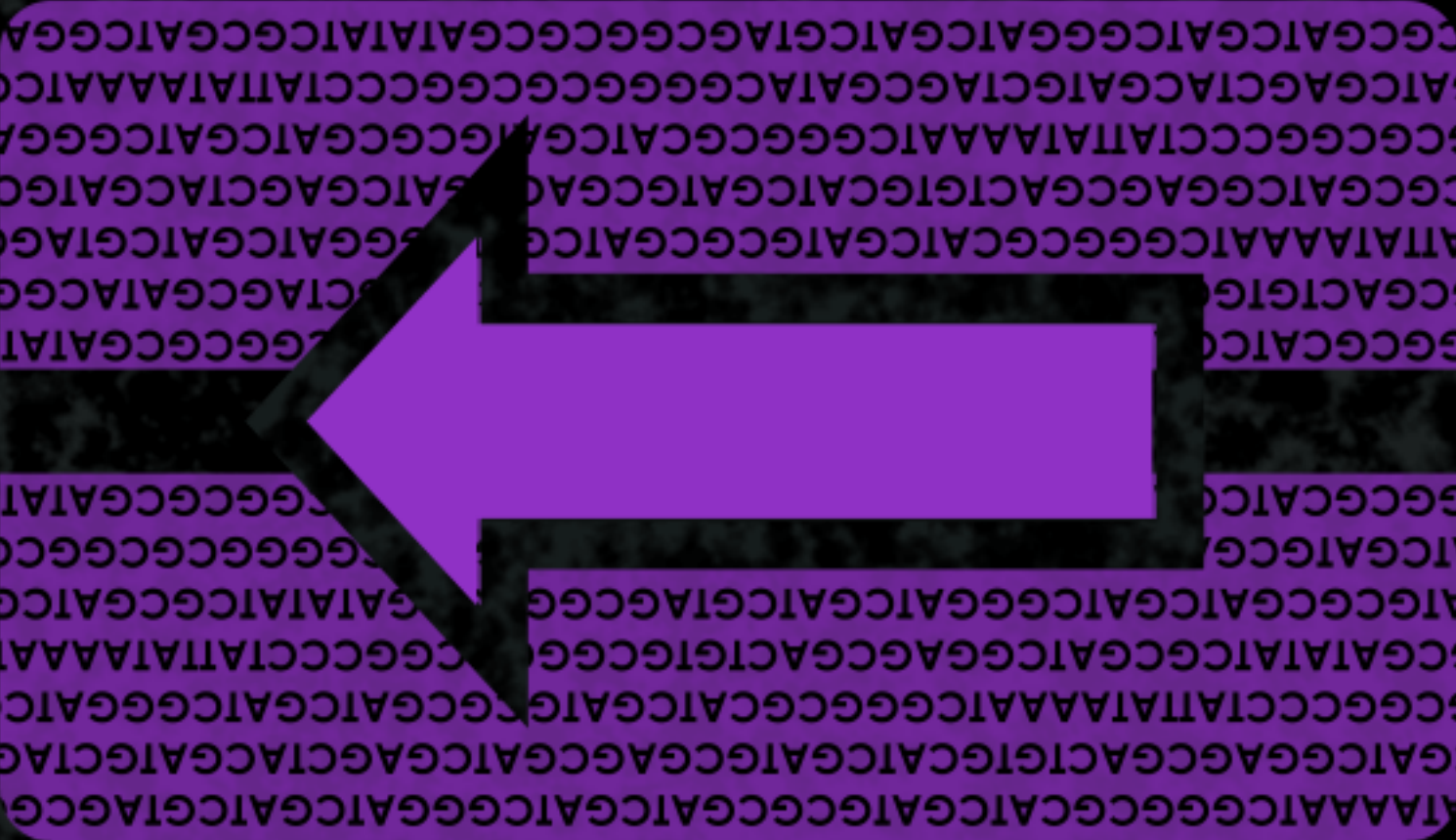
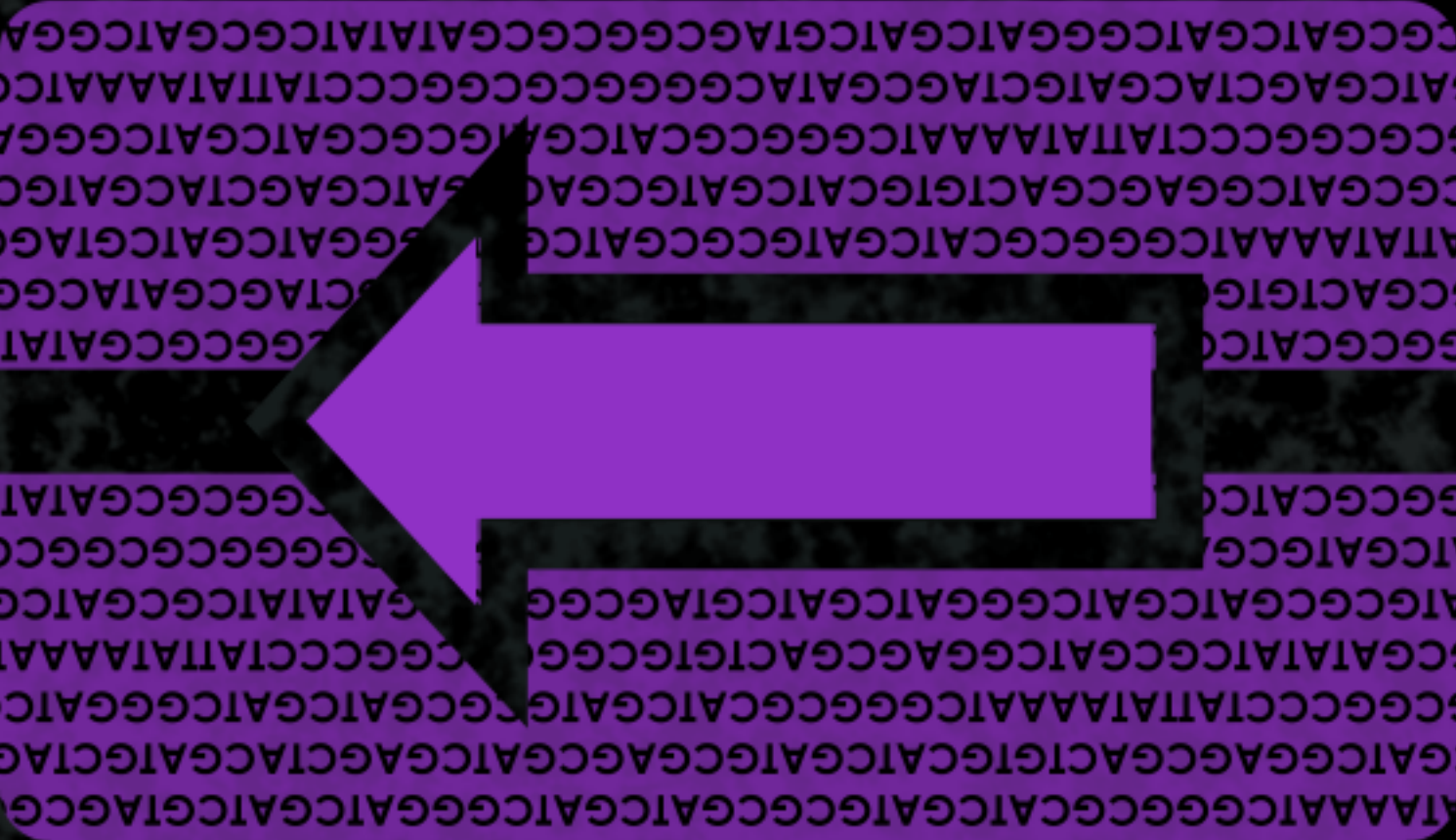
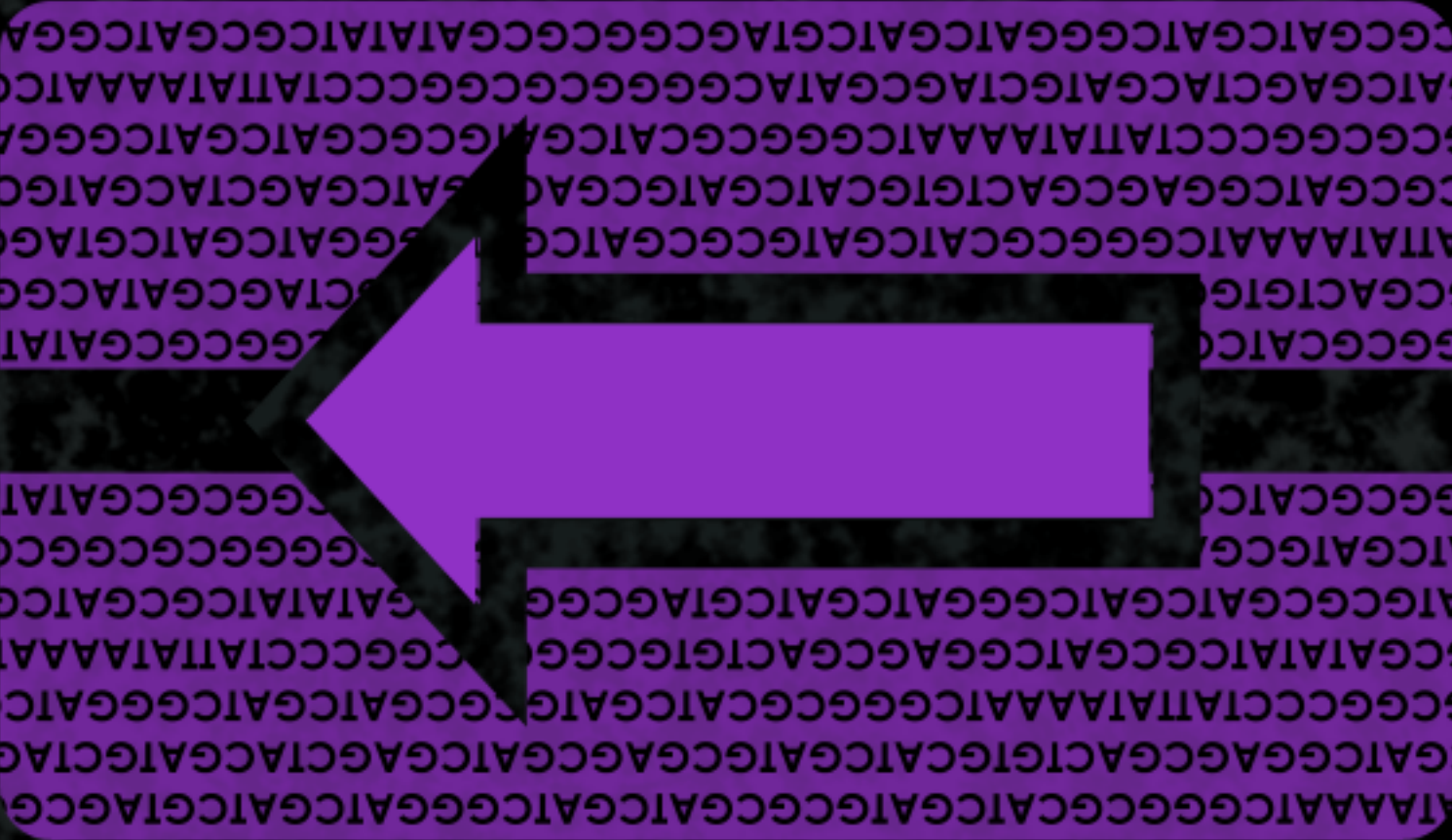
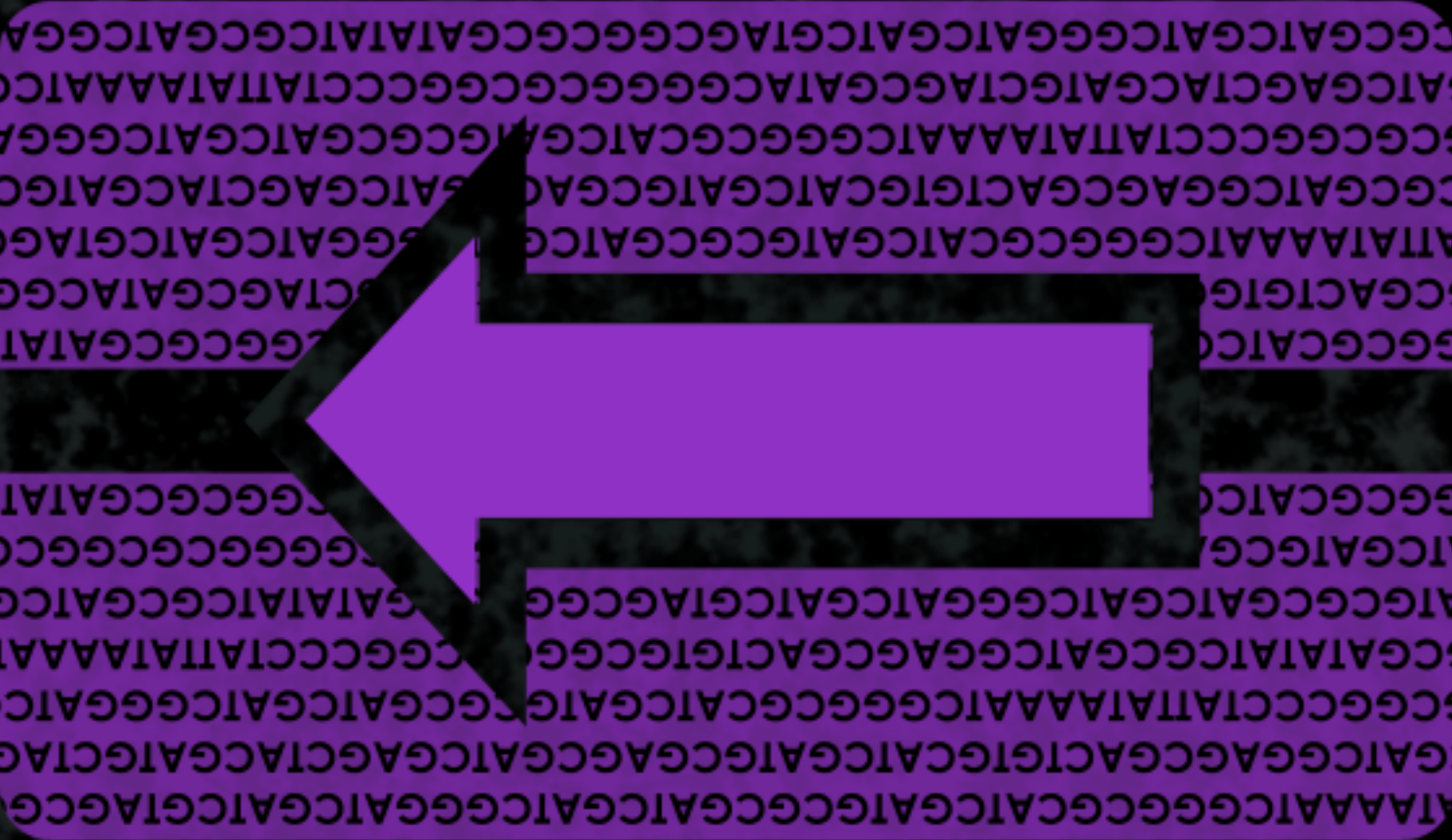
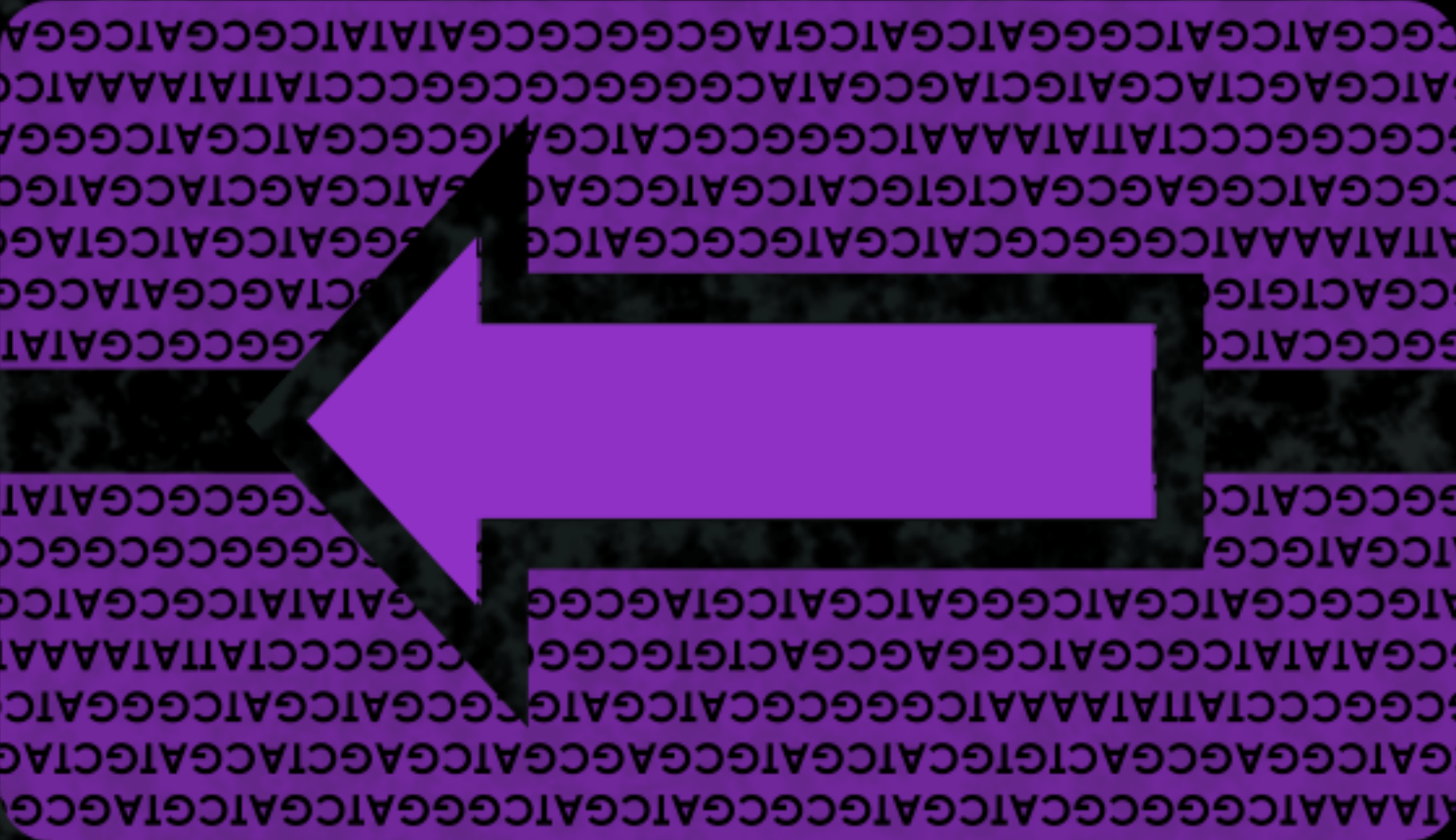
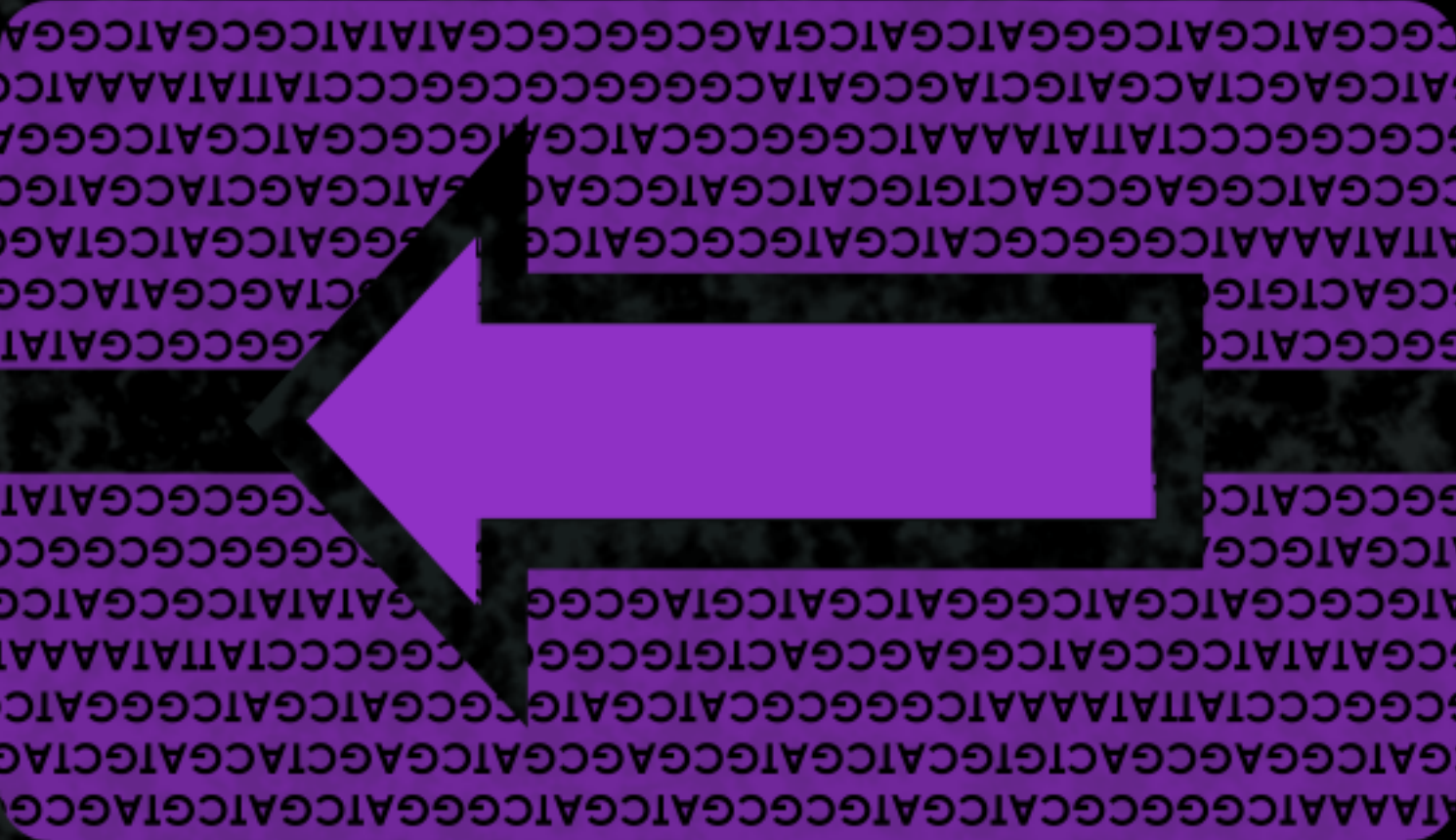
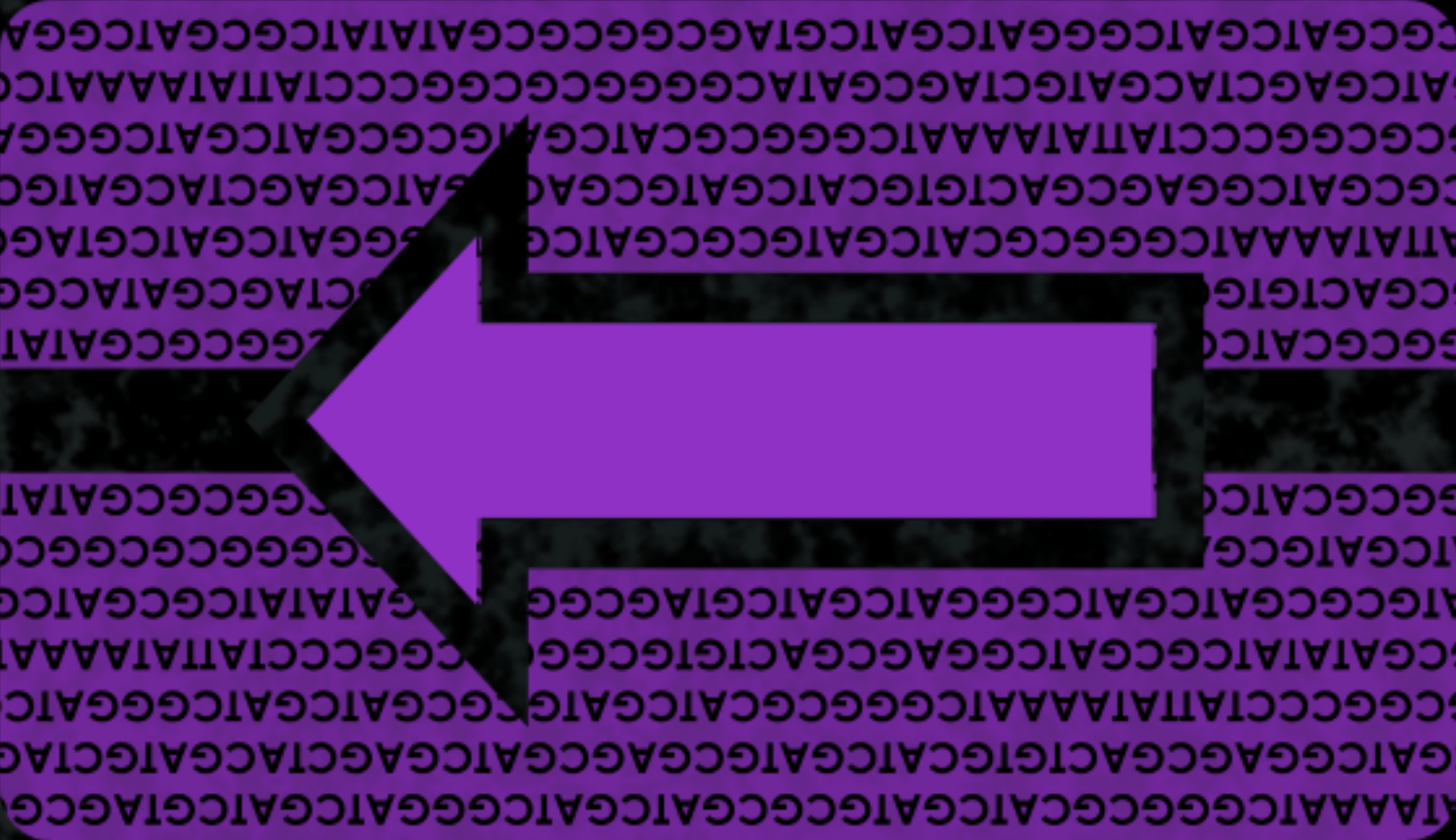
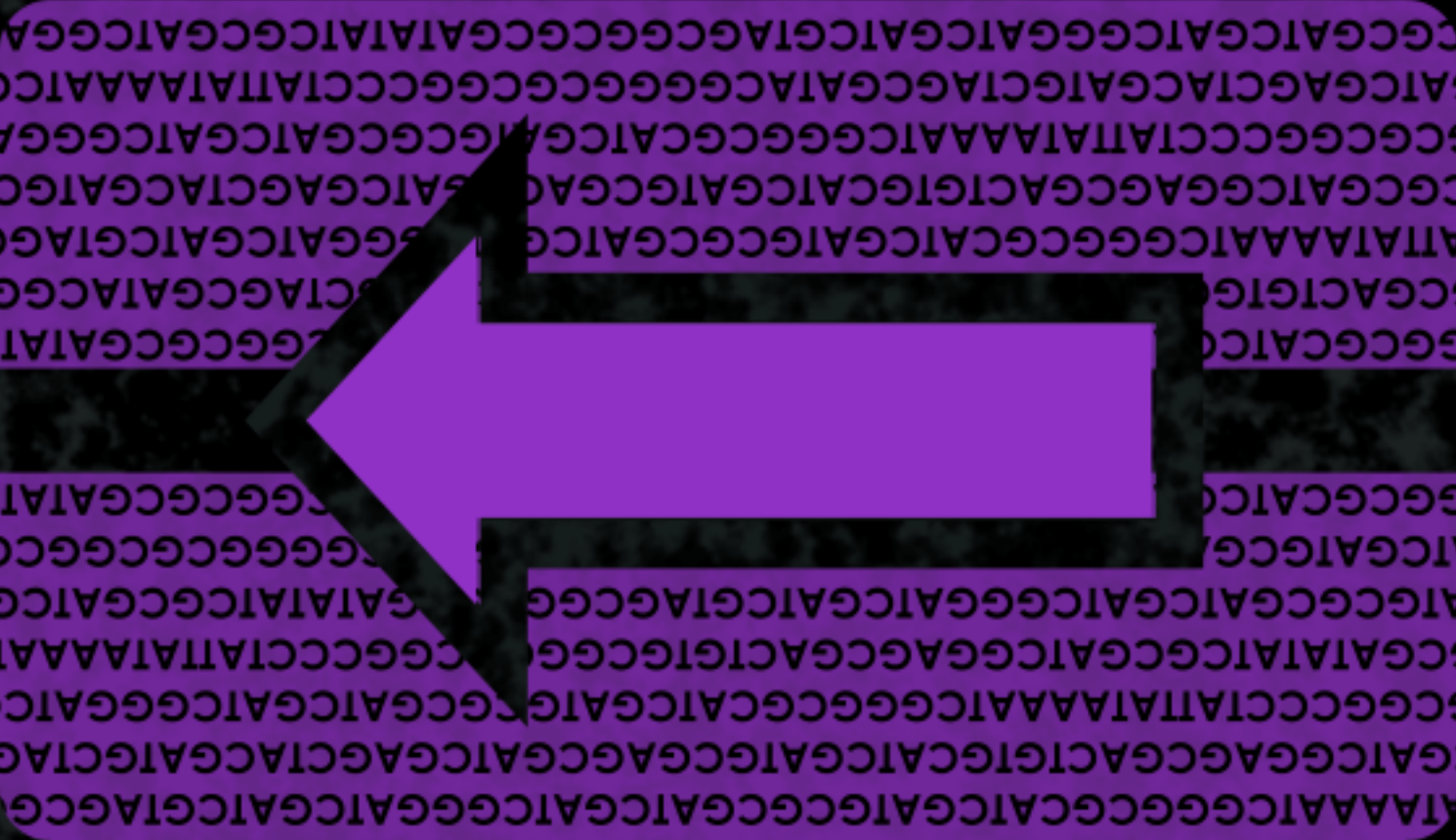


1-3 SunCream

Protein Coding Region

This PCR produces a protein that blocks UV radiation which could otherwise cause skin cancer. Be sure to use if stranded in the sun with no shelter.

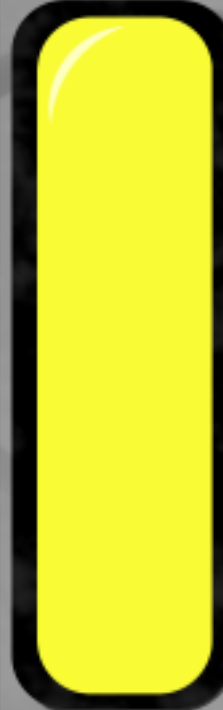




1-5 37oC

Promoter

Body temperature (37 degrees celcius) is usually ideal for cells. This card will allow your cells to promote at roughly this temperature.



1-6 ABG

Promoter

ABG is a promoter that activates your E. coli when in the presence of alpha, beta or gamma radiation.

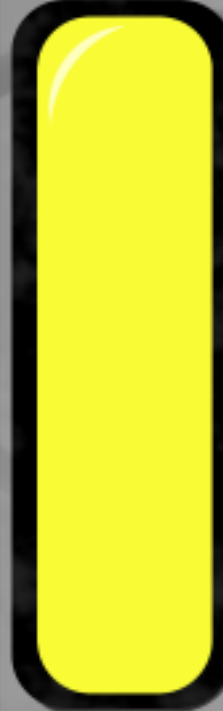


1-3 Alk-aLine

Promoter

When placed in an alkaline (pH>7), this promoter will activate your cell.

Such as martian soil or salt water.



1-3 atm-Pa

Promoter

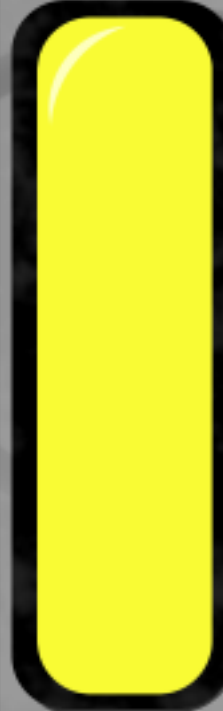
A useful promoter, activates cells when at 101KPa (normal atmospheric pressure on Earth).



1-4 BaS-1C

Promoter

When in an acidic substance (pH<7), this will cause your E. coli to activate. For example, in fizzy drinks or acid rain.



1-3 C01-D

Promoter

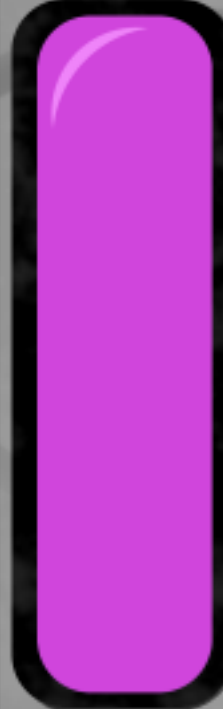
It's cold outside, possibly freezing. If you want to use synbio you better hope your plasmids have this promoter in them!



1-4 Cu-LatR

Promoter

Copper (Cu) reserves are found in rock. If your plasmid has this card, your cells will be expressed when in the presence of copper.



1-4 Fe-R

Promoter

Iron (Fe) is a metal, usually mined from rock. If you have iron deposits near you, it would be a good idea to use this card, as your cells will be promoted.



1-3 FreezeR

Promoter

Cells with this promoter are active when in cold temperatures. Roughly below freezing temperature.

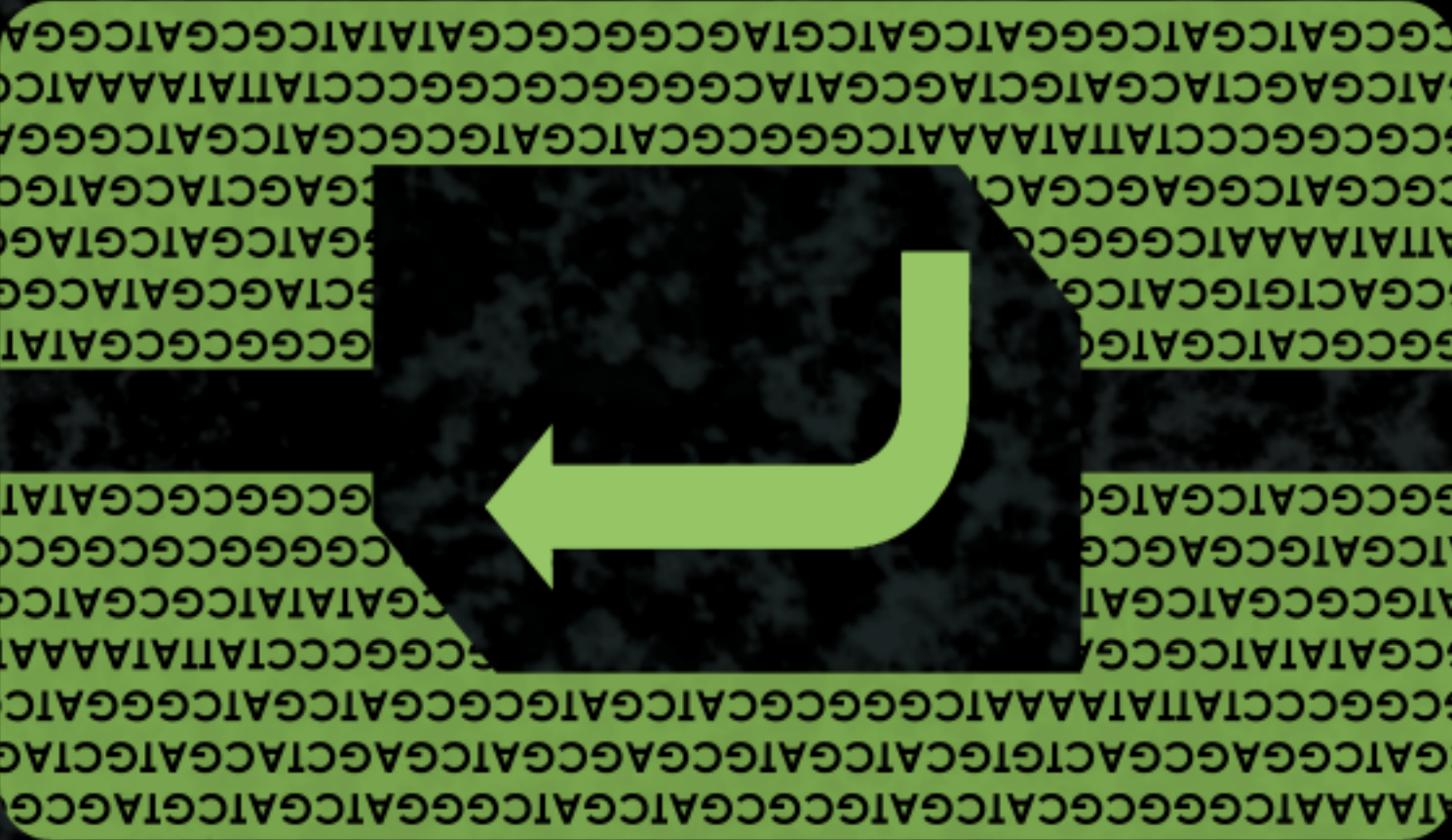


1-2 Haw-T


Promoter


It's boiling, you could be on a desert island, or even by a volcano. But at least your cells will work, providing you play this card.





1-2
N0-C







Promoter

This promoter works when no light is present, meaning that your cell colonies can activate in the darkest of environments, such as caves or mines.

1-4
N0-Pa







Promoter

In some scenarios the pressure will be very low. Use this promoter to activate cells in such environments. Useful on Mars or on mountains.

1-4
NaCl







Promoter

Some environments are rich in salt (NaCl). If used in the right scenario this card would allow cells to over-express when in the presence of NaCl.

1-4
Ni-YC







Promoter

If your scenario has large deposits of nickel, use this card. This will allow your cell to over-express when in the presence of such an element.

1-4
POP







Promoter

High pressure environments can be anything from a deep under water trench to a mine. Thanks to this promoter you can use synbio in these scenarios.

1-6
Salt-EE







Promoter

Lots of environments are rich in salt, if you are in such a place this card might be for you. This promoter will activate your E. coli when NaCl is present.

1-3
ScorchD







Promoter

When it's scorching outside (over 30 degrees), any plasmid with this promoter will activate.

1-2
ShineR







Promoter

When in the glaring sun, this promoter will cause your cells to express. Useful if your working in a sunny place, such as a desert island.

1-3
T3p-1D







Promoter

Perfect for cell colonies operating at room temperatures, of apporximately 25 degrees celcius. Useful indoors, or warm climates.

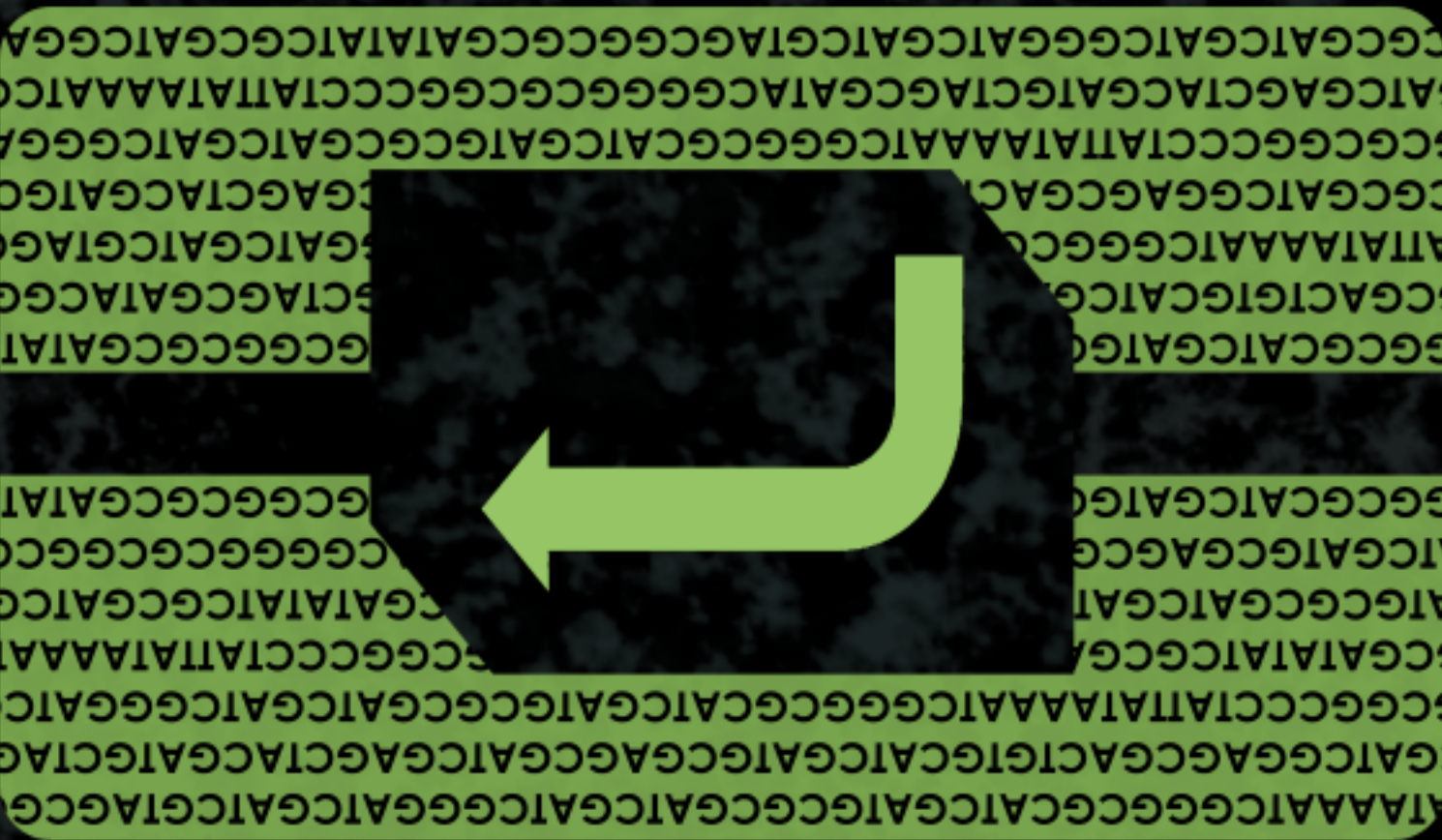
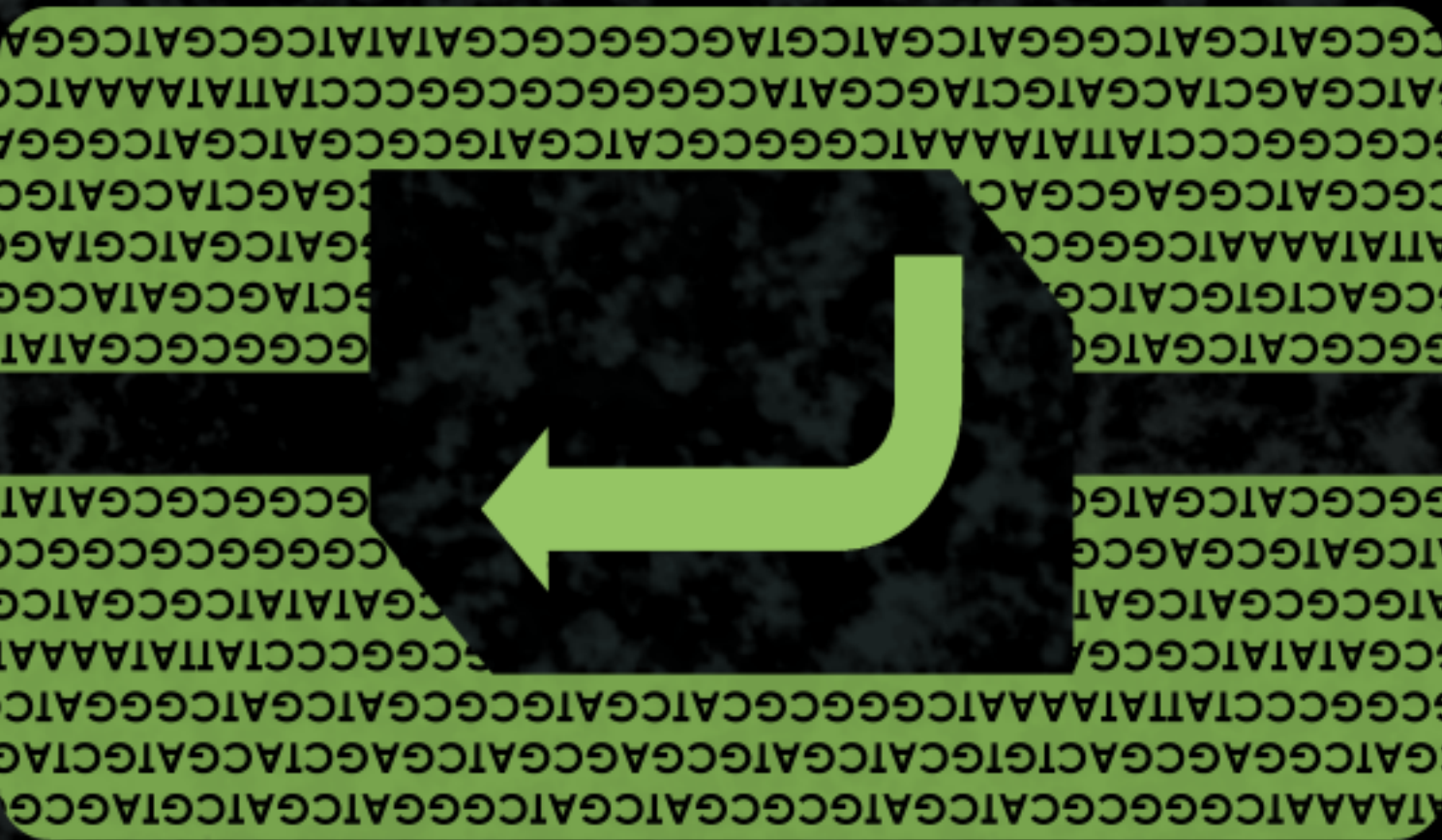
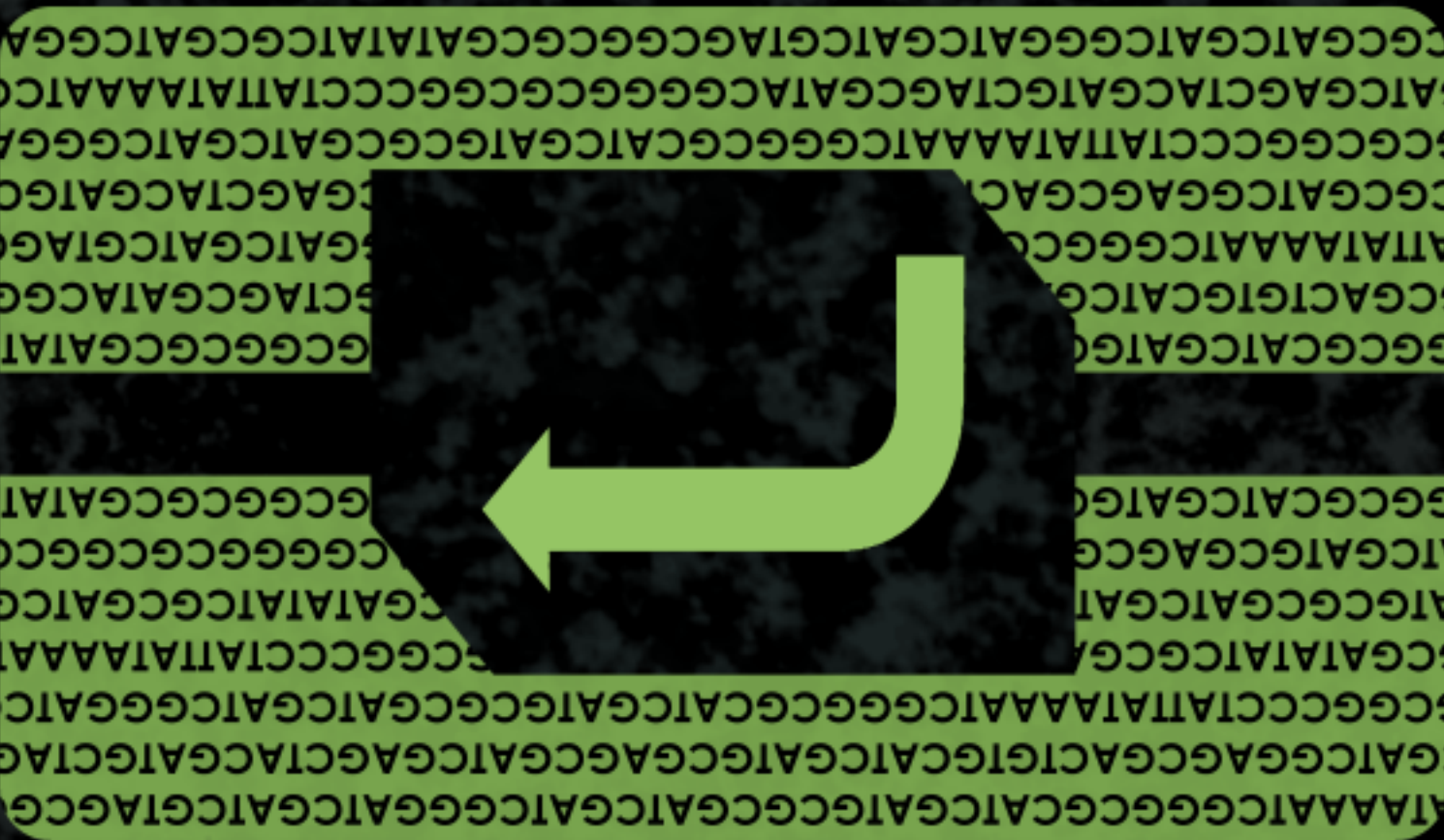
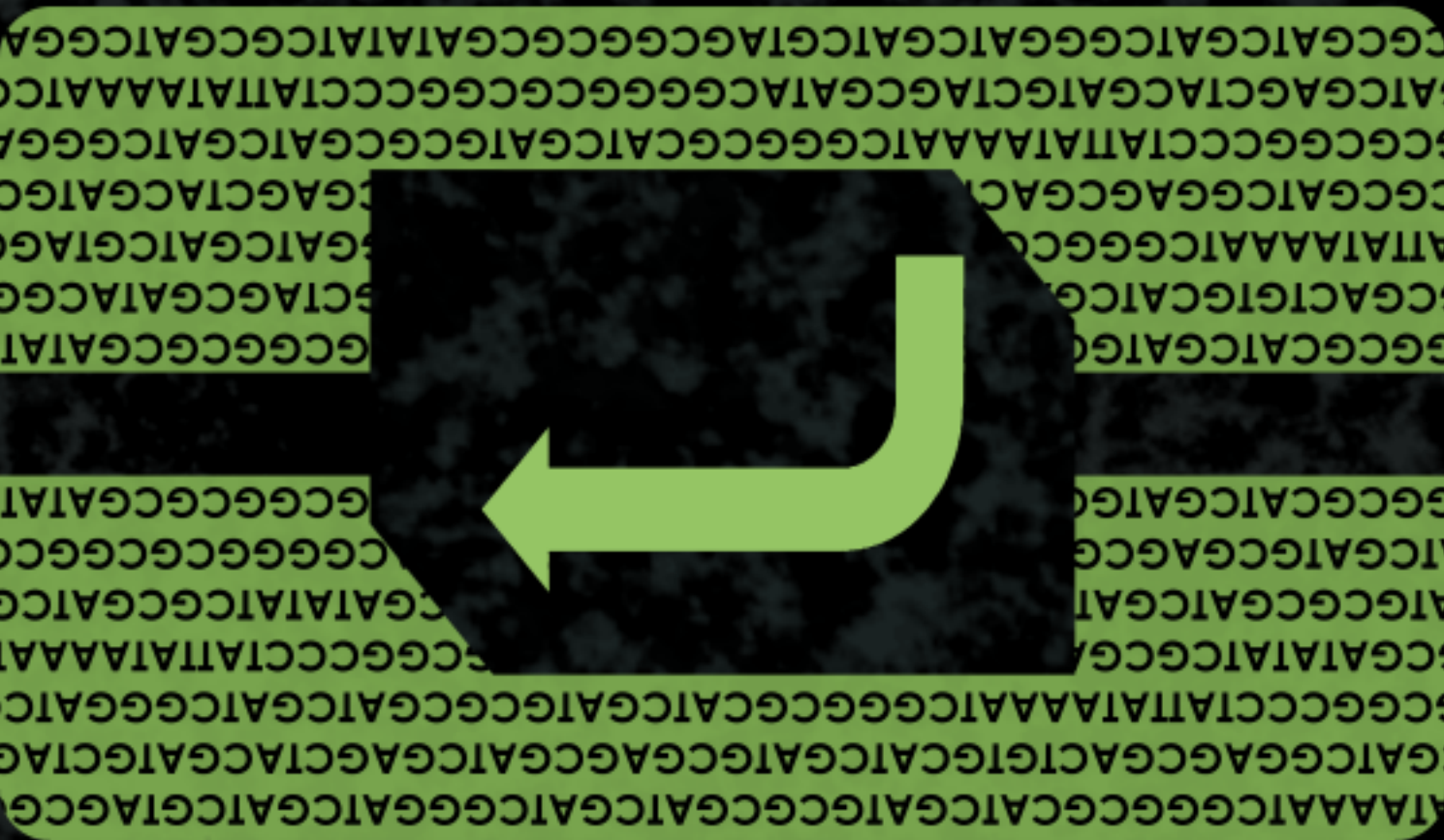
1-6
ToxR





Promoter


When this card is played your cells will activate when placed in an environment with toxic gas. Useful if working in a mine or by a volcano.



?



Ribosome Binding Site


You score **1** point
for every  in your genome
including the one on this card



?



Ribosome Binding Site


You score **1** point
for every  in your genome
including the one on this card



?



Ribosome Binding Site


You score **1** point
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?



Ribosome Binding Site


You score **2** point
for every  in your genome
including the one on this card



?



Ribosome Binding Site


You score **2** point
for every  in your genome
including the one on this card



?



Ribosome Binding Site

You score **1** point
for every  in your genome
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?



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Ribosome Binding Site


You score **2** point
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?



Ribosome Binding Site

You score **2** point
for every  in your genome
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?

Ribosome Binding Site

You score 1 point for every in your genome including the one on this card

?

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?

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You score 2 point for every in your genome including the one on this card

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?

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?


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You score 2 point for every in your genome including the one on this card



2


Terminator

Roll a  or higher, otherwise
your genome mutates and you
score no points this round



2


Terminator

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Terminator

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2


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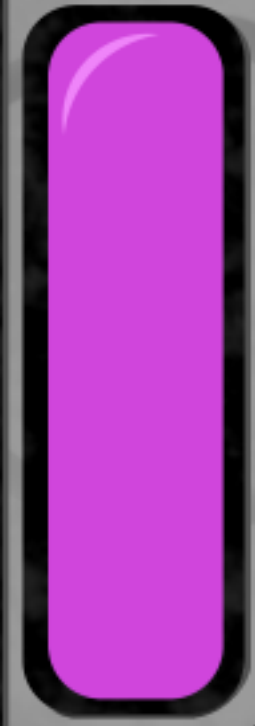
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2


Terminator

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score no points this round



3


Terminator

Roll a  or higher, otherwise
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score no points this round



3

Terminator


Roll a  or higher, otherwise
your genome mutates and you
score no points this round





6


Terminator

Roll a  or higher, otherwise
your genome mutates and you
score no points this round



6


Terminator

Roll a  or higher, otherwise
your genome mutates and you
score no points this round



3


Terminator

Roll a  or higher, otherwise
your genome mutates and you
score no points this round



3


Terminator

Roll a  or higher, otherwise
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score no points this round



4


Terminator

Roll a  or higher, otherwise
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score no points this round



5


Terminator

Roll a  or higher, otherwise
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score no points this round



4


Terminator

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your genome mutates and you
score no points this round



4


Terminator

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Terminator

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